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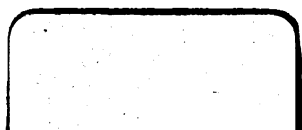
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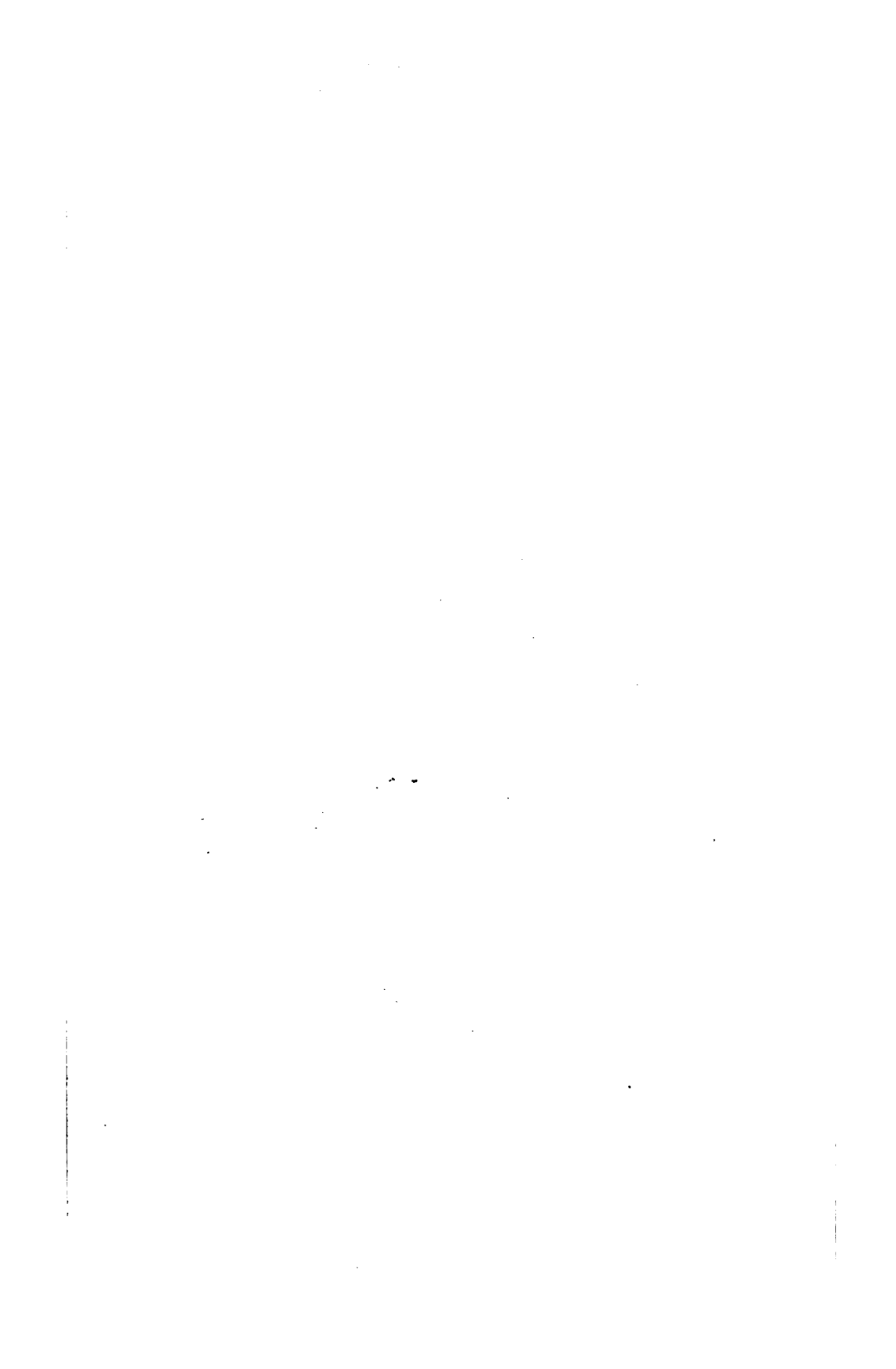
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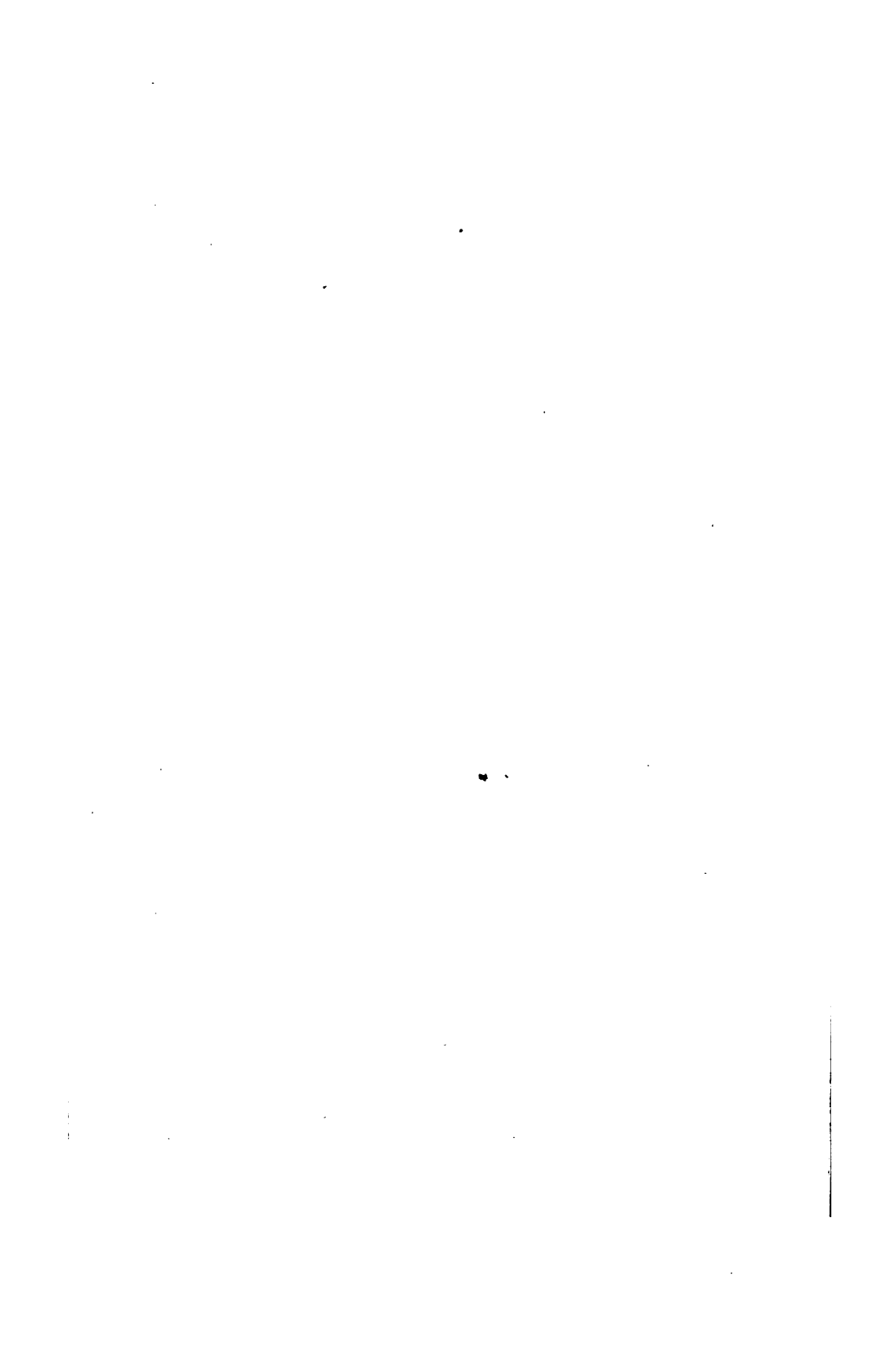
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**ASTHMA,**  
**ITS SPECIES AND COMPLICATIONS,**  
**OR RESEARCHES INTO THE**  
**Pathology**  
**OF**  
**DISORDERED RESPIRATION;**  
**WITH REMARKS ON**  
**THE REMEDIAL TREATMENT**  
**APPLICABLE TO EACH VARIETY;**  
**BEING A PRACTICAL AND THEORETICAL REVIEW OF THIS MALADY,**  
**CONSIDERED IN ITS SIMPLE FORM,**  
**AND IN CONNECTION WITH DISEASE OF THE HEART,**  
**CATARRH, INDIGESTION, &c.**  
**ILLUSTRATED BY CASES AND PLATES**  
**COLOURED FROM NATURE.**

“ Que nous serions heureux, si nous pouvions échanger ce que nous  
avons appris en médecine jusqu'aujourd'hui, contre ce qui nous est  
encore inconnu ! ”

BY  
**FRANCIS HOPKINS RAMADGE, M.D., F.R.S.**  
FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS,  
SENIOR PHYSICIAN TO THE INFIRMARY FOR ASTHMA, CONSUMPTION AND  
OTHER DISEASES OF THE CHEST, AND  
LECTURER ON THE PRINCIPLES AND PRACTICE OF MEDICINE, &c.



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PATERNOSTER ROW.

1835.

657.

BY THE SAME AUTHOR,

*In the Press, and shortly will be Published,*

**A FULL VINDICATION** of certain **OPINIONS** expressed in relation to the Science of **MEDICAL JURISPRUDENCE**; with Observations on the Present State of the Different Branches of the Medical Profession.

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## CONTENTS.

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	PAGE.
PREFACE . . . . .	v
Historical Account of Asthma . . . . .	40
Essential, or Nervous Asthma . . . . .	102
Treatment during the Paroxysm . . . . .	157
Treatment in the Intermission . . . . .	205
Treatment of Essential, or Nervous Asthma, with Case	215
Asthma, Complicated with Catarrh . . . . .	217
Case of Chronic Pituitous Catarrh, Complicated with Asthma . . . . .	261
Case of Chronic Mucous Catarrh, Co-existent with Asthma . . . . .	265
Case of Dry Catarrh, Complicated with Asthma . . . . .	271
Asthma, Complicated with Organic Lesions of the Heart and Large Vessels . . . . .	316
Case of Asthma, Complicated with Disease of the Heart	322
Asthma in Connection with Hysteria . . . . .	327
Case of Asthma, in Connection with Hysteria . . . . .	335
Explanation of the Plates . . . . .	360



## PREFACE.

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IN my Treatise on Consumption, I have laid before the profession the results of my experience in the most destructive of the numerous diseases incidental to the chest. The reception it has met with has encouraged me to undertake the present work on a malady, less fatal, it is true ; but, when of an aggravated character, as exquisitely painful to the sufferer, as it is alarming to the beholder.

Little has yet been done to put either the pathology, or the therapeutics of Asthma on a satisfactory basis. The few works of our English medical writers on the subject propose little beyond theory in the one, and palliation in the



other. Nor have the labours of the continental physicians been much more successful. The views put forward, in this country at least, have been chiefly traced from the limited opportunities of private practice, for the most extensive are circumscribed, when compared with those afforded by a public institution.

Having enjoyed, for many years, the advantage of being Physician to an Infirmary expressly devoted to Diseases of the Chest, I have been enabled to observe them on a large scale, and whatever may be the fate of my conclusions, I have not been negligent in the collection of facts.

My aim, throughout the work, is practical. I have never theorized, except where induction, from copious particulars, has warranted me in reasoning from effects up to causes. But I have been diffuse upon the treatment of the disease, in all its varying phases; and so conversant has

my position made me with the clinic of Asthma, that I believe the modes of cure and of mitigation now developed will be found—where novel, efficient ; and where old, improved.

Books, it will be seen, I have not neglected ; but my only guide has been—NATURE.

*24, Ely Place,  
London, March 28th, 1835.*



# HISTORICAL ACCOUNT OF ASTHMA.

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## ERRATA.

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Page.

33, Line 8 from top, *dele* inverted commas.

62, Line 8 from bottom, for "tic douloureux," *lege* "facial neuralgia."

154, Line 6 from top, for "nitric," *lege* "nitrous."

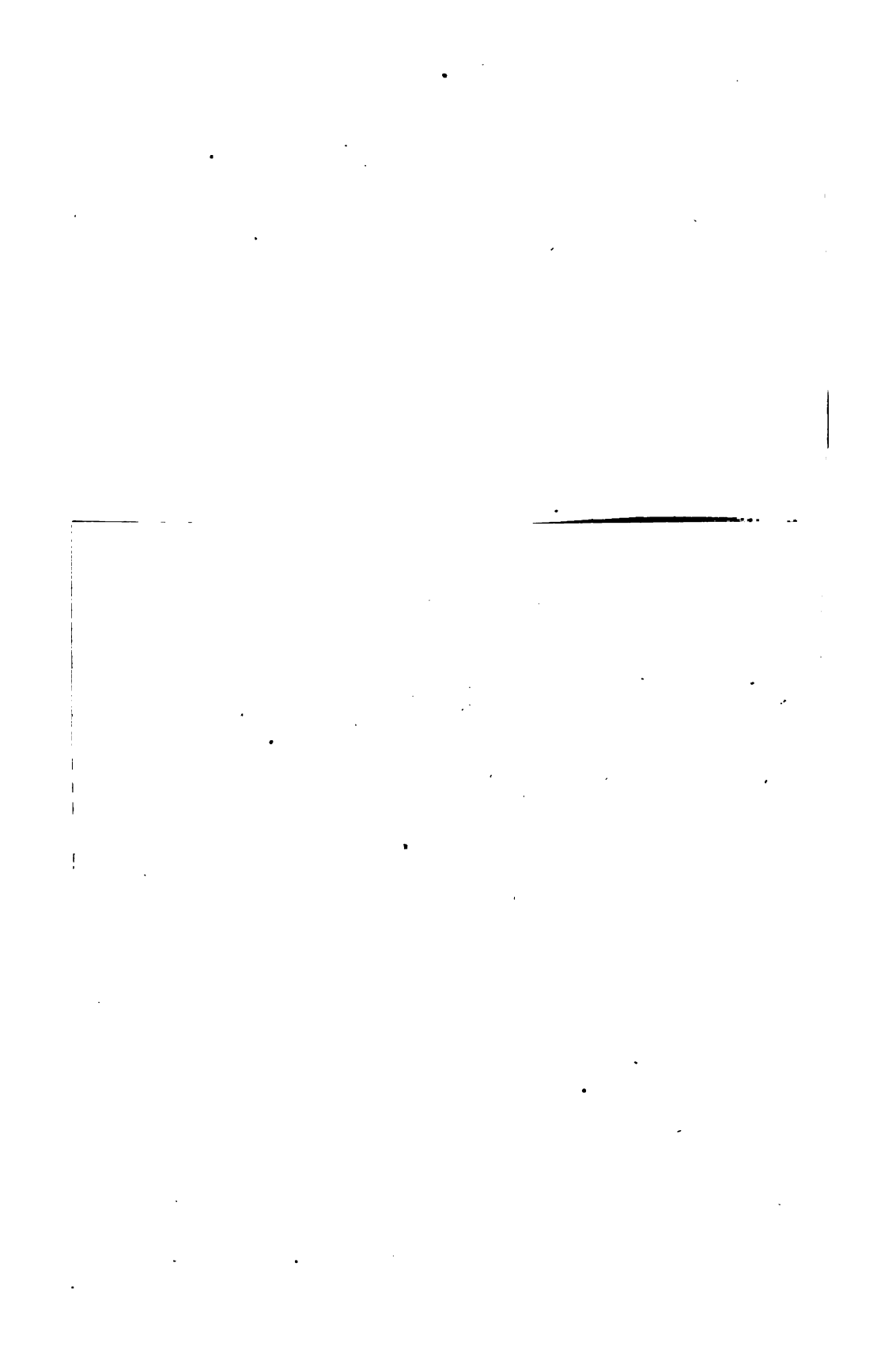
234, Line 7 from top, for "to," *lege* "over."

311, Last line, for "hands," *lege* "care."

316, Line 5 from top, *dele* "Mr."

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separated from each other by their causes, and differing in their effects, have been classed under the name of Asthma, as a generic term, from their agreeing in one general character—difficulty of breathing. This has not only produced much confusion among medical writers, but, as a necessary consequence, has led to a similar result



# HISTORICAL ACCOUNT

OF

## ASTHMA.

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NOTWITHSTANDING the advances made by the moderns on the ancients, the term Asthma is as indefinitely employed by us as by them. The scientific use it in as lax a sense as the uneducated; and both, however, are warranted by its etymology. Its Greek etymon, ἀσθμαίνειν, *difficulter respirare*, is so comprehensive in its signification, that numerous disorders, distinctly separated from each other by their causes, and differing in their effects, have been classed under the name of Asthma, as a generic term, from their agreeing in one general character—difficulty of breathing. This has not only produced much confusion among medical writers, but, as a necessary consequence, has led to a similar result

in practice. The cause of one pathologist is the effect of another ; and so with remedies, extolled on this hand, and decried on that.

From the earliest periods of medical science, attempts have been made to distinguish asthma as a separate disease, and to mark the boundaries which divide it from conterminous disorders. The ancients endeavoured to attain this end by terming slight difficulty of breathing *dyspnoea*, and laborious respiration *asthma*. The moderns, generally speaking, recognize two primary species—the spasmodic and the humoral asthma. Countless sub-divisions of these are again made ; and accuracy is changed to uncertainty by an excessive minuteness. Far am I from asserting that the classification of this multiform disease, as laid down by me, is one whit preferable, in a strictly scientific sense, to that of any preceding writer. I believe it will be found more convenient, in a practical point of view, inasmuch as the division is a limited one, and yet more varieties may be properly referred to each head than any other arrangement, with which I am acquainted, will permit. My chief aim will be to point out the peculiar phenomena characteristic of the disease itself, that is, of the true or nervous asthma, then

those of its principal complications; and again, by ascertaining the different stages which these undergo to establish a *rationale* of prevention, and of cure, more explicit than any I have hitherto met with.

It is not a little remarkable that although the ancients, Hippocrates inclusive, appear to have had no distinct knowledge of the true nature of asthma, and to have regarded it as a symptom occurring in different diseases, rather than as an aggregate of symptoms constituting a peculiar malady, no better description has been given of it than that furnished by one of its oldest medical observers, Aretæus. There is a beauty in his Ionic Greek, which I feel sensible will escape in the translation; yet the outlines may be preserved, and will shew his fidelity to nature. I transcribe the chief passages:—

“If from running, and exercise, and labour of any kind, a difficulty of breathing follows, it is termed *asthma*; and the disease *orthopnœa* itself is likewise called *asthma*, since in the paroxysms those (troubled with the latter disease) have embarrassed respiration. It received the appellation of *orthopnœa* from the patients’ breathing easily in the erect posture only, and being liable to suffocation if they lie down. \* \* \*



The lungs are affected, and the parts which contribute to respiration, as the diaphragm and thorax, sympathize. But if the heart be affected the patient cannot long survive, since here begin respiration and life. \* \* \* \* The precursory symptoms of this disease, are weight at the chest, an unwillingness to attend to one's ordinary avocation, or to business altogether, uneasiness of respiration in running, or going up hill. The patients are affected with hoarseness and coughing, flatulency in the præcordia, eructations without any assignable cause, watchfulness, and a slight undefined nocturnal heat, the nose is sharp and greedy of air. Under increasing disorder, the cheeks flush, the eyes are prominent as in cases of strangulation, a snoring is heard while they are awake; and the evil is much augmented during sleep. The voice indicates the presence of mucus, is feeble and indistinct. There is a desire for much and cold air. They seek the open air, nor does any house seem sufficient for the purposes of respiration. They breathe in an erect posture, as if anxious to draw in all the air possible, and open their mouths so as to take in a larger quantity. The face is pale, except a flush over the cheek bones; sweat bedews the forehead and neck; the cough is

constant and violent; the expectoration is scanty, thin, cold, somewhat resembling the efflorescence of froth. In the inspiration the neck is swollen: the præcordia are revulsed: the pulse is small, frequent, and depressed: the legs are attenuated: and if there be an aggravation of the symptoms, the patient is strangled as in epilepsy. But when the disease takes a favourable turn, the cough is longer, though less frequent, with an excretion of humid matter in greater quantity. There is a watery rumbling in the bowels; a copious secretion of urine without any sediment; the voice is more powerful, the sleep satisfactory, with relaxation of the præcordia, during which a pain at times passes to the back: the breathing becomes rare, gentle, but there is asperity of voice. Thus it is they escape death; but in the remissions, although they walk about in an upright posture, they yet bear the signs of the disease."

Sauvage has employed the word *suspirium*, used likewise by Celsus and Seneca, as a general term, to designate asthma. Independently of this authority, it has a prescriptive claim to admission into the medical vocabulary from being identified with the person of Virgil; and this, moreover, through the pleasant observation of

Augustus, who, alluding to the asthma of the epic poet, and the weak eyes of Horace, was wont to say, when they were seated on either side of him at table, that he was "*inter suspiria et lachrymas*," (between sighs and tears).

It is, I may add, no mean proof of the close observation of the Roman emperor, to have noticed the sighing sound, (which is similar to that of wind through a crevice,) oftentimes the accompaniment of asthma; and from which, as we have seen, one of our most eminent nosologists has taken his designation of the disease.

Modern writers are, generally speaking, no less faulty than the ancient in neglecting to lay down with precision the nature, and the succession, of the symptoms which constitute asthma a distinct species. Sauvage has committed this error, by giving to asthma a sense almost as extensive as that which belongs to dyspnoea. Others classify the disease into numerous distinct forms, many of which are undoubted epiphenomena, or symptomatic affections. Stahl, unlike the majority of nosologists, has treated the subject in a definite and judicious manner. His description of the true form, under the title of *Dyspnœa Spastica*, is definite and masterly. Van Helmont, by his denominating asthma *ca-*

*ducus pulmonum*, (epilepsy of the lungs,) seems to have entertained a correct view of its nervous origin; and later writers, guided by the light thrown upon the history of the maladies of the heart, and of the pulmonary apparatus by the science of Corvisart, have reduced what yet remains to be known of this distressing malady within very narrow limits. But the one writer, to whom we are chiefly indebted for enlarging our pathological views, and, above all, giving accuracy to our diagnosis, is Laennec. His example and writings have given an impulse to the study of medical physiology, and a precision to our knowledge of the distinguishing characteristics of thoracic disease, the benefits of which will be felt by generations yet unborn; and whatever improvements in his own grand domain of Auscultation may yet be made, he must ever form the central figure in the group of discoverers,

“Medium nam plurima turba

“Hunc habet, atque humeris extantem suspicit altis.”

The history of the disease has been minutely traced by two medical writers in particular; and, unfortunately, from experience in their own persons. These are Sir John Floyer, whose “Treatise of the Asthma” appeared in 1698:

and Dr. Bree, who published the first edition of his "Practical Inquiry into Disordered Respiration" in 1800. Thirty years previously to Floyer's publication, the celebrated Thomas Willis, in his "*Pathologiæ Cerebri, et Nervosi Generis Specimen*," had given the first diagnosis of this disease, possessing any claim to accuracy, presented to the medical world. Since his time the nervous character of the disease has been generally recognized; and the question, which divides the most esteemed medical writers of recent date, is whether asthma be essentially nervous, or dependent on some hitherto undiscovered lesions. Andral, Cruveilhier, Laennec, Recamier, and other distinguished observers, have never met with any organic lesion, however slight, which might be regarded as the cause of asthma. It is not improbable, in many instances, that through defective data, for want of some perceptible lesion in the lungs, or heart, or the large vessels, affections merely concomitant have been erroneously taken for causes. A proof of the primary influence of organic disease in producing asthma may be sought in the fact, that the asthma of old age generally proceeds from structural change in the valves or vessels of the heart, or some alteration of tissue palpably generated

by the hand of time, and of course not nervous. On the other hand, there have been frequently observed, without any signs of asthma, far advanced organic lesions of the apparatuses of respiration and circulation. Indeed, examples are not wanting of asthma having preceded the development of organic maladies of the thorax, and ceasing as if by the ingression of the latter diseases. Experimental physiology, employed with a view of determining the nature of asthma, has imitated in animals some of the peculiarities of the disease. Dupuytren, Legallois, Dupuis, and others, have, at will, effected every degree of stricture of the aerial passages by ligature, or by section, of the eighth pair of nerves, so as to close the glottis, and produce paralysis of the lungs.

Those organic alterations, which may occasion symptomatic asthma, are most generally observable at the extremes of life; and we have many reasons to doubt the disease's being essential, or nervous, at either of these periods, for in old age, irritability is deadened, and, although great in childhood, it leaves but few traces. Again, contractility is much more developed in middle age than at either of the extremes; and the influence of the passions is, of course, considerably greater. However, dyspnoea in childhood,

arising from lesions of the heart, or of the large vessels, is as rare as it is common among the aged. An exception must be made for those cases which are congenital.

When death occurs from suffocation in intense and prolonged asthmatic fits, the same congestions are observed in the parenchyma and pulmonary membranes, which are met with in asphyxia. A long list likewise of organic alterations has been given by various writers, which, however, in many instances, are perfectly irrelevant, either as causes or effects. Those, which are really important, may be briefly stated to be some species of structural impediment of the larynx, or trachea, diminishing the ordinary area of these parts; extensive adhesion, inflammation, or emphysema of the lungs; œdema of the same viscus; glandular or calcareous obstructions at the root of the lungs; various organic lesions of the heart, and of the aorta, as well as valvular irregularity of both; ossification of the coronary arteries; chronic pericarditis, &c.

The different questions which have been propounded on this subject, and which naturally arise from it, need not be here entered into. When treating the various divisions into which I classify asthma, I shall consider how far each

species may, or may not, be dependent on lesions visible, or latent. My present object being to give a general outline of the disease, I proceed to consider its ordinary causes both predisposing and determining.

Every age is subject to the ingression of this disease; and it varies its symptoms according to the time of life at which it appears. It has been stated that men are more subject to it than women, and the proportion has been much overrated by Frank. Asthma will occasionally succeed, by a species of morbid transformation, other nervous diseases, constituting those varieties which have been named by various authors hysteric, rheumatic, and hypochondriacal asthma. In these cases, it at times alternates, either with intermittent fever or external neuralgia. Great, but undue, stress has been laid on the influence of excess, whether of the pleasures of the table, or in other respects: although undoubtedly they, in some degree predispose, especially in individuals of an asthmatic diathesis. Indeed, to produce asthma, either in the above instances, or in the case of those professions in which particles of dust or of various metals are inhaled, the concurrence of a peculiar disposition of the nervous temperament, calculated to receive external im-



pressions, seems undoubtedly required. It is possible that in some cases of asthma, where we find no exciting cause, some visceral irritation may exist, sympathetically affecting the brain, and which is reflected through the sentient extremities of the nerves supplying the pulmonary tissue as well as the bronchi. My much esteemed preceptor Bécclard, whose lectures I had the pleasure of attending several years ago at Paris, states, that he met, in a case of mortal dyspnœa, no other lesion than a tumour developed on one of the diaphragmatic nerves. I have met with a schirrous tumour on a similar part, but certainly unaccompanied by any asthmatic disease. I have, indeed, seen more than one scrofulous tumour, pressing on the left phrenic nerve, about the centre of the lateral part of the pericardium, without any dyspnœic symptoms; and have found them on nerves, in different parts of the chest, without any inconvenience to the respiratory functions. It is far from uncommon in consumptive cases to meet with adhesion of the lungs to the pericardium, the result of inflammation; yet the disturbance that might be expected to follow from the irritation of the phrenic, or diaphragmatic nerves, has not been attended by any derangement of action in the respiratory

muscles deserving the name of asthma. Georget observes that he has often remarked alterations of the texture and colour of the brain, in individuals who had succumbed to asthma: a circumstance inclining him to regard this malady, as perhaps having its organic cause in the centre of sensibility. I, however, am induced to regard these, as well as the alteration of the cerebral substance near the origin of the *nervus vagus*, mentioned by Jolly, as being rather consequences of the disease, resulting from congestion, or other causes; or, at times, accidental circumstances unconnected with the asthmatic disorder.

Among the predisposing causes may be enumerated hereditary impression, all the varieties of catarrhal disease, and indeed whatever can interfere with the freedom of expiration, simple plethora, odours of every description, metastasis from gout or rheumatism, retrocession of various eruptions, chronic disorders of the stomach and bowels, uterine affections, narrowness of the glottis, with extreme susceptibility of the membrane lining all the air passages, as well as connate, or accidental narrowness of the bronchi, trachea, or mal-conformation lessening the diameter of the chest. The temperaments

most generally liable to the ingression of this disease, are the nervous, the bilious, the choleric, and the melancholic. Floyer has observed, that asthmatics are commonly hypochondriacal. The humoural form appears in general to attack the corpulent, luxurious, and indolent.

In no disease are the recognizable, or the pre-supposed causes more various. The hypotheses, which have been started through a passion for systematizing, and referring asthma to one primary origin, known, or conjectural, would fill a volume. With some writers it is an essential malady, with others an alteration of the nervous fluid; with others again, an alteration of the vital principle. Laennec refers it to the want of a more abundant oxygenation of the blood than what is sufficient for a healthy person; and finally, another sect of medical writers determines that it is immaterial.

As determining causes, heat and cold may be equally regarded as influential. The asthmatic is peculiarly susceptible of every variation of atmosphere. Richerand remarks, in his Physiology, that the respiration of some asthmatics is rendered very painful by the electrical state of the atmosphere at the approach of summer: and Rostan has noticed the effects of the cold in

winter in old people, (who are besides generally subject to some mechanical obstacle to the circulation,) by constricting the solids and suspending the cutaneous perspiration, so as to render the capillary net-work of the periphery of the body less easily permeable by the blood, which is thus accumulated in the interior vessels and in the lungs. So keen is the susceptibility of the asthmatic to atmospheric changes, that even when the weather appears settled; and no indication is given by the barometer of approaching alteration, I often predict a change, with certainty, to the apothecary of the Infirmary, from the symptoms exhibited by the patients. In such case, the invalids will manifest a sudden and decided alteration, either for better or for worse, two or three days before any corresponding change in the weather; but I have long remarked that whenever an immediate well-marked difference in the symptoms occurs, the state of the atmosphere will invariably experience a change in two or three days' time. This observation will be found valuable to the future inquirer into the pathology of the lungs; and it is only, I may observe, by enjoying the opportunity of investigating diseases on a large scale, that such minute particulars can be collected and verified. The

only internal organ, immediately susceptible of atmospheric influences, and by which we can be properly said to be connected with the aerial medium, is the lungs. Consequently, the fact above cited, is easily explained; and the more so, when we consider the extremely delicate organization of this viscus. Brought constantly in contact, as it were, with the air, its mercury, if I may be allowed the expression, ascends and falls with a sensibility unattainable by the feeble mechanism of man. The lungs constitute an hygeinometer of index more sure, than the finest instrument art has produced since the first rude model employed by Torricelli.

Asthma, except when seriously complicated, is by no means of difficult recognition; and even when the complications make near approaches to the external phenomena of asthma, no very acute degree of attention is required to enable the practitioner to discover the simulation. In asthma, properly so called, the attack is, in general sudden, or preceded by well-known symptoms, such as flatulent uneasiness in the stomach and bowels, undefined oppression and constriction of the chest, a dry cough, general irritability and impatience, head-ache, dejection and languor, an involuntary closing of the eye-

lids, thirst and dryness of the mouth, a dry and cold skin, and a copious flow of clear urine; sometimes preceding, and, in other instances, subsequent to the invasion of the fit. Its usual periodicity, the shortness of its duration, the intervals of varying length, in which the return to health is more or less perfect, constitute other distinguishing signs. As the spasmodic breathing ceases, the expiration becomes proportionately more free; a bronchial secretion usually terminates the fit in a somewhat critical manner; and no symptom of organic lesion of the chest is perceptible in the interval. In symptomatic asthma, accompanied by affection of the heart, or of the aorta, the palpitations in the region of the heart, the irregularities of the pulse, and alterations of the countenance form very distinctive characters. But by the aid of auscultation and percussion, a sure judgment may be promptly formed. The peculiar signs afforded by these media, in each asthmatic variety, will be pointed out when I come to treat them in detail.

Since there are several diseases which bear a resemblance to asthma, whether pure or complicated, sufficient in many instances to raise doubts in the mind of the young practitioner, it may not be unadvisable to enter more minutely

into the specific differences of these than has hitherto been done in treatises on this complaint. The comparison likewise of asthma with disorders affined to it, may serve by reflecting mutual light to illustrate each other. Of all apparently similar complaints, that termed by Darwin *Asthma Dolorificum*, but from Heberden's time, usually called *Angina Pectoris*, is the most liable to be confounded with pure asthma. By way of simplification I shall first mention those symptoms which belong alike to each of these two diseases, and then enumerate those which, occurring in the one, seldom accompany the other. The most prominent symptom to the observer, and frequently to the patient himself, is difficulty of breathing: and although this is an apparent, not a real state, and actual dyspnoea is rarely present in the true angina, I put it down as common to it with asthma, speaking popularly rather than scientifically. When the fit approaches its height, pallor of the countenance and excessive nervousness are concomitants of both disorders. A sense of suffocation is also observable in each. The exciting causes are, in many respects, similar; since many agents, which are influential in affecting the nerves, are calculated to interfere with the natural action of the heart. Thus

trouble of mind, unusual exertion, and gusts of passion, will frequently induce a paroxysm both in angina and nervous asthma. The coming on of attacks at night, after the patient has awakened from his first sleep, forms, at times, another point of connection. In numerous instances the angina appears at regular intervals, recurring periodically, and affording the patient a respite by a return of comparative ease, as is the case with periodic asthma. So far, there would seem to be a striking similarity between the two diseases. But, on a closer examination, the distinctive marks become very sensible. The pain felt in the chest, on an attack of angina, is restricted for the most part to the left side, and is often acutely felt under the mamma. The left arm, too, is generally affected by a darting pain, as if a red-hot iron were instantaneously plunged down it; and what is extraordinary, is, that in general it does not take the direction of any nerve, but shoots down the centre of the arm. This pain is, at times, superficial; at times deep-seated; and occasionally instead of this pungent pang a sense of numbness is recognized. To such an extent will this peculiar pain proceed, that I have known an individual, subject to the complaint, and to whom I was called in



when he was suddenly seized with a paroxysm previous to death, expire, shrieking out, "My arm! oh, my arm!" The sensation of pain in the chest differs from that felt in asthma, inasmuch as it is of an acute constrictory nature, not a sense of mere confinement or compression. I have already noticed that dyspnœa is rarely co-existent with angina; and this, now well-established, fact was first satisfactorily proved by the celebrated John Hunter, who was a martyr to the disease. The fear of impending death forms another characteristic symptom peculiar to angina; and when the disease is of long standing, the mere motion of walking across a room is excitement sufficient to induce an attack. In many instances, the pulse will exhibit a well-marked distinction betwixt the two diseases, since in angina pectoris it is often unusually low, falling to less than thirty pulsations in a minute. I would here observe, that the line of demarcation has not been accurately drawn between the various forms of this disease; many cases being now confounded with angina, which Laennec has more accurately denominated *Neuralgia*. In fact, these belong rather to a painful state of the nerves of the heart, than to actual structural disease. In order to illustrate the peculiar cha-

racter of this disease, and by contra-distinction that of *Asthma*, I shall introduce a case or two which have fallen under my own observation; but, first, I shall quote from Lord Clarendon's History of his own Life the most definitely marked case that has been handed down to us, and possessing an additional interest from the character of the writer, as well as the fidelity and graphic nature of the description.

I have retained the whole of the account, being unwilling, however unconnected parts of it may be with medical illustration, to mutilate so interesting a picture of the times by abridgment. The serenity with which the venerable man looked forward to "that undiscovered country, from whose bourn no traveller returns," although evidently entertaining a strong presentiment of approaching death, and the reverential simplicity with which each particular is detailed, form an harmonious whole, whose integrity I should deem it sacrilege to invade by any omission. "His father," he writes, "had long suffered under an indisposition (even before the time his son could remember) which gave him rather frequent pains than sickness, and gave him cause to be terrified with the expectation of the stone, without being exercised with the

present sense of it: but from the time he was sixty years of age, it increased very much, and four or five years before his death, with circumstances scarce heard of before, and the causes whereof are not yet understood by any physician; he was very often, both in the day and the night, forced to make water, seldom in any quantity, because he could not retain it long enough: and in the close of that work, without any sharp pain in those parts, he was still and constantly seized on by so sharp a pain in the left arm, for half a quarter of hour, or near so much, that the torment made him as pale (whereas he was otherwise of a very sanguine complexion) as if he were dead; and he used to say that he had passed the pangs of death, and he should die in one of those fits. As soon as it was over, (which was quickly,) he was the cheerfullest man living; eat well such things as he could fancy; walked, slept, digested, conversed with such a promptness and vivacity upon all arguments, (for he was *omnifariam doctus*,) as hath been seldom known in a man of his age; but he had the image of death so constantly before him in those continual torments, that, for many years before his death, he always parted with his son, as to see him no more; and at parting still

showed him his will, discoursing very particularly and very cheerfully of all things he would have performed after his death. He had for some time before resolved to leave the country, and to spend the remainder of his time in Salisbury, (where he had caused a house to be provided for him,) both for the neighbourhood of the Cathedral church, where he could perform his devotions every day, and for the conversation of many of his family who lived there, and not far from it; and, especially, that he might be buried there, where many of his family and friends lay: and he obliged his son to accompany him thither before his return to London; and he came to Salisbury on the Friday before Michaelmas day, in the year 1632, and lodged in his own house that night; the next day he was so wholly taken up in receiving visits from his many friends, (being a person wonderfully revered in those parts,) that he walked very little out of his house. The next morning, being Sunday, he rose very early, and went to two or three churches; and when he returned, which was by eight of the clock, he told his wife and son, that he had been to look out a place to be buried in, but found none against which he had not made some exception, the Cathedral only

excepted, where he had made choice of a place near a kinsman of his own name, and had shewed it to the sexton, 'whom he had sent for to that purpose; and wished them to see him buried there: and this, with as much composedness of mind as if it had made no impression on him; then went to the Cathedral to sermon, and spent the whole day in as cheerful conversation with his friends (saving only the frequent interruptions his infirmity gave him once in two or three hours, sometimes more, sometimes less,) as the man in the most confirmed health could do: Monday was Michaelmas day, when in the morning he went to visit his brother Sir Laurence Hyde, who was then making a journey in the service of the king; and from him went to the church to a sermon, where he found himself a little pressed as he used to be, and therefore thought fit to make what haste he could to his house; and was no sooner come thither into a lower room, than having made water, and the pain in his arm seizing upon him, he fell down dead, without the least motion of any limb: the suddenness of it made it apprehended to be an apoplexy; but there being nothing like convulsions, or the least distortion or alteration in the visage, it is not like to be from that cause,

ner could the physicians make any reasonable guess from whence that mortal blow proceeded. He wanted about six weeks of attaining the age of seventy, &c."—*The Life of Edward Earl of Clarendon, &c.* Fol. Oxford, 1759; pp. 9-10.

The above case is so clearly stated as to leave no doubt concerning the nature of the complaint. The "so sharp a pain in the left arm for half a quarter of an hour, or near so much;" the "as pale as if he were dead," and "the image of death so constantly before him in those continual torments," together with the suddenness of his death, form so vivid and distinct a picture, that to have seen the patient could not have given us a clearer insight into his disease.

I give one out of several cases recorded in my note-book, which, however inferior in descriptive power, may serve to illustrate some points not touched upon in Lord Clarendon's account.

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CASE PRESENTING WELL-MARKED ANGINA PECTORIS, PARTIALLY COMBINED WITH EPILEPSY.

Consulted by George Watson, by trade a currier, aged sixty-nine, resident in White-

chapel, on the 25th of May, 1824. About nine years ago he was seized with a sense of giddiness, which terminated in a convulsive fit; of which, when he recovered, he had lost all consciousness. The immediate result of the fit was excessive debility; and similar attacks recurred at intervals, varying, at first, from two to three months; but for three years previously to this application their return has been as frequent as twice in a week, and on several occasions they have succeeded each other within even a quarter of an hour. Their duration, he states, is uncertain; at times lasting only a minute, so far as he can judge from apparently momentary fits, from which he has recovered when by himself; at other times they have continued almost uninterruptedly for two days and nights. At other times, there will be a painful tremor of the heart, preceded, and on other occasions, followed by an agonizing, darting, vibrating pain, passing through the chest, and losing itself in the deltoid muscle of the left arm, which, at first but of momentary duration, afterwards increases so as to continue upwards of a quarter of an hour, and a sense of numbness then extends downwards to the extremities of the fingers. Sometimes the

pain will take an upward direction to the throat, accompanied by suffocative constriction. At times he lies in a state of apparent deliquium, his bodily powers arrested even to the cessation of his pulse, and suspension of respiration; yet perfectly conscious, and with his mental faculties unobscured. Occasionally, temporary insensibility occurs. At such times the paroxysm is preceded by a sense of fulness and of pain in the epigastrium; which last symptom extends sideways to the left mamma; and thence to the left arm as far as the elbow, and is increased by pressure. The respiration is impeded, but is at once relieved by the eructation of flatus. Before becoming insensible, he states that he undergoes a sensation of something ascending from the stomach to the vertex, or like the sudden passage of some fluid, previously confined, through a narrow aperture. When it reaches the crown of the head it seems at once to burst through, and he drops down instantaneously. After a shock of this description has passed off, his general feeling is that of improvement rather than weakness. While the sensation above described continues, he feels, in conjunction with it, a sense of heat in the anterior regions of the thorax, neck, and head. His



pulse, at the time these minutes are being taken, is 24, accompanied by a vibratory motion, or as of a second and lesser pulsation following the stronger beat. The general number of beats, according to his own calculation, is from 24 to 27 in a minute; exertion, particularly ascending stairs, occasions a feeling of oppression at the præcordia, and renders the pulse slower. Occasionally on sitting down, after exertion, he has undergone so violent a palpitation at the region of the kidneys, as to affect his whole frame with tremor. He is then obliged to walk about gently until it subsides. Respiration is natural. The extremities always cold, except when in bed; and once, during cold weather, he had symptoms of gangrene in the toes of his right foot. Two years before applying to me, he experienced an œdematous swelling of the legs and thighs, which continued for a fortnight, and proved an obstacle to walking. This state has not recurred. At every pulsation of the heart he suffers a momentary deprivation of sight; although, in other respects, his eye-sight is unimpaired, and he can read small print without glasses. His appetite is good, bowels regular, and, except involuntary startings which disturb him for some time after he first falls asleep, and

unpleasant dreams, he rests well. His habits have been regular ; but his employment, as currier, exposes him to wet and cold.

Five or six months after I first saw him, the disease terminated fatally ; and the principal appearances discovered by autopsic examination, were as follows :—

The left ventricle of the heart in a state of hypertrophy, and moderately dilated. Ossific deposits were observable at the bases of the semi-lunar valves, which were themselves thickened, and on the aortic side of one of these valves was a calcareous concretion about the size of a pea. Beneath the lining membrane of the interventricular septum appertaining to the same ventricle, there was a semi-cartilaginous induration, extending about an inch and a half in the direction of the longer axis of the heart, and a little more than an inch transversely, about a line and a half in its thickest part, gradually diminishing to the outer edge of the plate. On bisecting the aorta, the coats of this vessel appeared healthy, with the exception of a portion of the internal one about the size of a shilling, where was a calcareous deposit, like an earthy scale, part of which was bent out of the direction

of the layer, projecting at right angles with it into the cavity of the vessel. This appearance was presented about an inch and a half above the orifices of the coronary arteries. The coronary arteries were unusually patulous, and these vessels for two inches down their canal were converted into calcareous tubes, but of a diameter sufficiently capacious to admit of a comparatively free passage of the blood for the nutrition of the heart. The brain was carefully examined, but nothing unusual was observable, excepting that the internal carotid on each side of the cella turcica was singularly dilated. Nothing deserving to be particularly noticed was presented on examination of the abdominal viscera, as they differed in very trivial points from their natural state.

I have been thus particular in marking the characteristics of Angina Pectoris, and illustrating them by the above cases, from the apparent similarity of the two complaints often leading to mistakes in practice.

To sum up my opinions on this disease, I am inclined to believe, from dissections of persons who have laboured under angina, and yet presented no appearance of ossification in the coronary arteries, and from my knowledge of cases

in which morbid conversion of these vessels had existed without the manifestation of any symptoms of this complaint, that it is often entirely independent of any organic lesion whatever. In numerous instances, it appears to me to be a purely nervous affection. When the descending set of filaments derived from the cardiac plexus, which from taking the course of the coronary arteries are termed the coronary plexus, are affected, the chief manifestation of the disease is an irregularity in the action of the heart, accompanied by palpitation and pain; when through sympathy with the pulmonary plexus, or by direct junction, the cardiac nerves extend their irritability, the breathing becomes laborious and convulsed; and this obstruction is considerably increased, should the irritability be communicated to the intercostal nerves through the medium of the great sympathetic, which anastomoses, by various twigs, with both the cardiac and pulmonary plexus. On the same principle the pain in the arm may be referred to affection of the brachial plexus, either sympathetically, or by anastomosis. It is not improbable that the calcareous condition of the coronary arteries, to which I have before adverted, is in no small degree owing to a long-continued

morbid condition of their accompanying nerves. Blackall, in his work on Dropsy, has appended some useful cases, illustrative of the pathology of Angina Pectoris, to which he appears to have devoted some attention; and, it is to be regretted, that he did not use the same degree of observation in investigating the former complaint. He appears to have made but few *post-mortem* examinations, and in those few to have been utterly unaware that disease of the heart was a most frequent cause of dropsy, there hardly being a remark made by him on its condition in those bodies he dissected. Perhaps, however, we ought to charge this want of knowledge on his "most respected preceptor," the elder Latham, whom he compliments with a degree of eleemosynary gratitude. It was doubtless charitable and generous in him so to do; since it is to be presumed from Dr. Latham's work on Diabetes, as well as his holding a situation in a hospital, to an appointment in which none are eligible who have not derived their medical, or more correctly speaking, non-medical knowledge from the old Universities, that his pupils could not have been over and above enlightened by the worthy doctor's industrious efforts. Industry, indeed, like every other word, has its

signification limited by the ideas, and habits, of the person pronouncing it.

In the work above cited on Diabetes, Dr. Latham boasts of retiring on the well-earned fruits of industry : and, as a specimen of his notions on the subject of industry, he writes a treatise on the complaint after having barely investigated " a case or two " by dissection. This he deemed enough, and, I presume, felt fatigued by the exertion. In addition to this, he had doubtless imbibed a distaste to morbid anatomy from the system of education pursued at Oxford and Cambridge.

The true, or sthenic bronchitis, and asthma, are sometimes liable to be confounded, but the presence of inflammation in the former constitutes an essential distinction. The progress of the two diseases is likewise peculiarly contrasted by the absence, in bronchitis, of the sudden severity of dyspnoea, which, in asthma, comes on almost instantaneously. In those spasmodic affections of the glottis, and the larynx, which are occasionally confounded with asthma, the character of the sound emitted will at once contra-distinguish them from asthma ; and the patient, besides, is perfectly sensible of the seat of his uneasiness. In addition to this, he exhibits

an alarm, and sense of danger which the asthmatic never betrays. Pulmonary apoplexy, and asthma, have some features in common, but the line of demarcation is nevertheless distinctly marked. In both the dyspnœa is equally violent; but in pulmonary apoplexy it is occasionally accompanied by acute irritation of the larynx, and by entire absence of sound in a greater or less portion of the chest, and sometimes by a bellow's sound, more or less distinctly audible in the heart and arteries, with a full, frequent, and vibratory pulse. Again, expectoration of sanguineous sputa, quite pure, or intermixed merely with saliva, the result of the hæmoptisical engorgement, forms a leading symptom in this disease; whilst, although the same condition may accompany asthma when intense, it is chiefly towards the close of the fit, and is never considerable. The sound of the chest is seldom much altered on the first invasion of pulmonary apoplexy; but a well-marked change takes place in the murmur of respiration. However, the most peculiar, and distinctive signs, presented by the stethoscope, are the absence of the respiratory sound over a confined space, or spaces, around which is heard the crepitous rattle. The latter is ordinarily succeeded, as the disease gains ground, by the *mucous râle*.

A singular case is recorded by Hohnbaum, the subject of which, a man aged forty, and a free liver, had been an asthmatic patient, and died (as dissection proved) of pulmonary apoplexy.

Hydrothorax approximates, in some of its symptoms, to asthma, more especially by the violent suffocative fits which come on at night. Percussion and auscultation, however, will readily mark the difference; the former by its dead sound, and the latter by displaying the absence of the respiratory murmur. Acute catarrh has been confounded with asthma; and it requires close examination to decide whether there exists essential dyspnoea, or whether the symptoms do not depend on phlegmasia of the larynx, or of the trachea. In this enquiry the attention must be especially directed to the state of the circulatory, and respiratory organs; and care must be taken not to mistake that secondary mucous phlegmasia of the bronchi, which at times arises from the continued fluxion working in their capillary system, for the same phlegmasia as a primitive affection.

The last conterminous disorder I think it necessary to mention, is the vesicular emphysema of Laennec. This may simulate asthma by the violence of the dyspnoea; but contrary to what



happens in the latter, the dyspnoea is habitual, although subject to returns of exacerbation. The regularity of the pulse, too, in this species of emphysema, joined with the absence, or at least the obscurity of the stethoscopic signs, constitutes another marked difference.

The prognosis of asthma is seldom difficult. Doubt can arise only in cases severely complicated. When the asthma wears the purely nervous form, danger is rarely to be apprehended : yet, if long continued, it may give rise to organic alterations seriously affecting life. Abstracted from this, and also from the considerations belonging to the age, and habits of the individual, the prognosis, so far as the immediate safety of the patient is concerned, may be almost uniformly favourable.

From the nature of the remote causes, however, of this disease, the prognosis must often vary. Asthma, proceeding from any lively moral affection, or from causes which acting on the bronchi merely trouble the respiration, will probably be but of short duration ; yet, if it have a violent origin, and is perpetuated by repeated attacks, each fit must aggravate the symptoms, and increase the danger. Any dropsical swelling is an unfavourable circumstance, although

Floyer seems to have regarded it otherwise. A superabundant secretion of a watery character, in consequence of filling up the bronchial tubes in the lower part of the chest, to such an extent as to prevent the free admission of atmospheric air, is sometimes, in old asthmatics, the cause of almost instantaneous death.

The occurrence of peripneumonia notha, as I shall have occasion to notice more particularly hereafter, in persons enfeebled by age, or sickness, is an unfavourable symptom, and is indeed often attended with considerable hazard; and the danger arising from malformation is noticed in that aphorism of Hippocrates, which has proved so fertile a field for controversy, *Ὅκότες υβροὶ ἐξ ἀσθματος ἢ βηχὸς γίνονται πρὸ τῆς ἡβης ἀπόλλυνται*. Lommius has a remark to the same effect.

It may be set down as an ulterior good, that when the asthmatic disease has once induced emphysema, the patient can never be assailed by that more dangerous malady, pulmonary consumption. The enlargement of the lungs that follows, is a sure barrier against its inroads. I may observe that the same happy preventive against consumption is found in the emphysema of the lungs, should cancer, or any incurable disease follow. The patient's life is prolonged by the

security the emphysema affords against phthisis, which, but for it, would be likely to supervene on the deterioration of the general health occasioned by similar diseases.

From the congestions which take place in the liver, and the other viscera connected with the vena portæ, (the results of the pulmonary impediments produced by asthma,) some structural disease of these parts, or effusion from their serous covering, is, at times, likely to occur.

The disturbance given to the central organ of circulation is frequently productive of dilatation as well as hypertrophy, or some organic change in it, or the valves connected with it. When such a complication, as well as hydrothorax, hydro-pericardium, or an œdematous state of the lungs, happen to supervene, which, however, is consequent on long continuance only of the asthmatic disease, the prognosis is rendered more doubtful. Indeed, it is seldom found that these partial dropsies occur without being followed by general dropsy, which state, when occasioned by visceral disorder, is highly dangerous. Asthma of long standing is apt, in some cases, to degenerate into habitual catarrh of one species or other; and when the catarrh is violent, and the patient of a full habit of body, apoplexy has come under my notice as the result.

A very remarkable, but hitherto unnoticed fact connected with the history of asthma, is an exemption, which I have frequently noticed, of asthmatics from aneurismal disease. This originates in their non-liability to that scrofulous degeneracy of the blood vessels, on which aneurism will, if I mistake not, be frequently found to depend. We know that the artery is nourished in the same manner as every other part of the body; and from its vascularity, and organization, it must of course admit of those accidents, to which every vascular and organized part is exposed. Now that state, which Scarpa has denominated the steatomatous condition of an artery, and in which the internal surface exhibits an irregular and somewhat fleshy appearance, and at other times that of small flattened tubercles, is identical, I have long had reason to believe, with strumous deposit. By the interposition of this substance, the middle and internal coats of the artery become at length so attenuated, and absorbed, as to yield to the impulse of the circulation; laceration ensues, and thus the aneurism is eventually formed. Again, the steatomatous, or tuberculous deposit, undergoes precisely the same changes which we find take place in the lungs, or in the bronchial and other glands.

When it softens down it becomes atheromatous or purulent matter, in every respect of the same nature as the pulpy, or curdy consistence of the crude, or ripe tubercle. Still further, when absorption takes place, partial adhesion commences between the internal and middle coats ; and where this is imperfect, a squamous and cretaceous formation is begun to supply the place left vacant by the absorbed matter, as we find in cases of imperfect cicatrization of the lungs, or of strumous disorganization in a bronchial gland. To use a legal phrase, were it not "travelling out of the record," I should pursue this subject much farther. It would, however, be now foreign to my purpose ; and sufficient has been said to throw, I trust, a new light on the pathology of a highly interesting disease.

To sum up the prognosis in few words, asthma is seldom productive of present danger, but often betokens much future inconvenience.

**ESSENTIAL,**  
**OR**  
**NERVOUS ASTHMA.**

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In its uncomplicated state Asthma, as has been observed, is of very rare occurrence. Since, too, it seldom or ever proves fatal, the pathology of this, the spasmodic form, is altogether conjectural. Many physicians, indeed, deny the existence of a purely nervous species. The correctness of this opinion will be examined hereafter. At present, we shall assume the reality of such a disease, and proceed to detail its ordinary symptoms.

The peculiarity of this form consists in the suddenness of its attack, so that no warning would appear to be given. Its ordinary forerunners, when "note of preparation" is sounded, are mental anxiety, extraordinary exertion of any

kind, sudden changes in the weather, disagreement of food, and, in short, whatever operates mediately, or immediately, upon the nerves. Thus, it is apparent, that the proximate cause of the spasmodic asthma, must, with that of most nervous disorders, remain unknown, until we can resolve that mysterious connection betwixt the mind and body, which, it seems probable, will ever baffle alike the physiologist and the philosopher.

The symptoms, with which the attack commences, are a sense of general oppression, more particularly in the head and chest. The eyes are affected much in the same manner as in common cold; and there is a feeling of weight and fulness about the pit of the stomach. The patient is heavy and languid; disinclined to exertion; drowsy, and apt to fall into disturbed and uneasy slumber. In some cases, a day or two preceding the attack, the patient is sensible, a short time after dinner, of a feeling of weight and over-fulness in the region of the epigastrium, and the stomach is swollen and distended with wind. From the disturbance given to the digestive functions, the eructations are usually acid or insipid. Floyer observes, that he noticed in himself the spasmodic state of the lungs to be so

much the more supportable in proportion to the spasm of the intestinal canal, marked by the gaseous distension, extending itself to the lower bowel.

As the respiration becomes more difficult the pain at the chest increases, and the constriction is at least so intense as to be compared by the sufferer, to what might be supposed to arise from cords bound tightly around it. It heaves and dilates as if striving to burst these imaginary bonds, and is again compressed, as it were, by their violent re-action. The stupor and heaviness, at first felt in the head, are not unfrequently replaced, as the attack approaches its height, by severe head-ache. Slight fever is occasionally present with its usual concomitants of thirst and restlessness; as are also dryness, corrugation and pallor of the skin. Cough, of a strictly convulsive nature, seldom at first accompanied by expectoration, comes on, and harasses the patient by its frequency and violence. It appears to the patient as if his lungs were pushed to the top of the thorax; a number of muscles, and indeed the whole muscular apparatus is exerted in aid of the muscles of inspiration, and sometimes with such efforts that con-



vulsions, and even epileptic symptoms, are the result.

A deadly paleness now overspreads the countenance; the extremities turn cold, and the wheezing, which accompanies each expiration, is audible at the distance of several rooms. The sufferer literally gasps for breath; the blood vessels of the eyes become swollen and turgid by the violence of the cough; and the eyes seem ready to start from their sockets. To speak, at this stage of the paroxysm, is impossible, or if effected, the effort is agony. Even to make a sign with the hand is a distressing exertion: and to add to this complication of agony, the most even-tempered will at this crisis become fretful and peevish; and a gesture misinterpreted calls forth a manifestation of passion, and with it an aggravation of every distressing symptom. It not infrequently happens that the mind participates in the highly-wrought excitement of the body, and adds a train of imaginary terrors to the real tortures which rack the patient's frame. A thousand ills, conjured up by the morbid state of the mental faculties, not only harass the patient in themselves, but by their re-action super-add to the extremity of his suffering. Of course,

it will be understood that all these symptoms are not always present ; but some or other of them form the general characteristics of Nervous Asthma.

In the generality of instances, the attack commences towards evening, and after retiring early to bed from the lethargy, which I have mentioned as one of the primary phenomena, the patient is suddenly awakened in a few hours by a feeling of strangulation, and finds that the fit has seized him with all its violence. Occasionally, however, the asthmatic will, after awakening, lie in a half-dreamy, half-conscious state, sensible in some sort of the approach of the attack, and yet indisposed to rouse up and strive to ward it off by having recourse to preventives. When fully awake, he finds an oppression of the chest, weighing him down like an incubus, and is constrained to sit up, or to quit his bed at once, if, as he imagines, he would escape suffocation. One of the most ordinary symptoms of this disease is an unusual flow of urine of a pale colour ; but at the termination of the attack it becomes high coloured, and deposits a sediment. In fits of short duration, on the contrary, such a limpid state of the urine is seldom observed ; and the most inconvenient

symptom is that of flatulency. A few hours generally bring such fits to the close, and relief is first indicated by the expectoration becoming copious. A disposition to sweat, and irregularity of pulse, are likewise concomitants of these short attacks; which are free from the proneness to sleep before noticed. Frequently, these attacks are repeated at intervals of one or two days, or more, for some period. In such cases the pause, or intermission, between each attack, consists of an abatement of the more violent symptoms, rather than a cure. The patient will, from the delightful contrast presented by present ease to his recent suffering, feel light of heart, and imagine his restoration to health perfect; but a nice observer can easily detect incompleteness and general irregularity of respiration.

It deserves notice, that the violence of the symptoms increases, instead of diminishing, at each successive paroxysm, until the attack has run half its course; and that after this the remissions are longer, and more perfect, until the termination of the fit. When the nervous habit is once established, that is to say, when at some determinate period, or periods of the year, the fits recur, whether in winter or summer, or more

frequently, the intervals elapsing between them are not times of complete health. Many indices present themselves to the physician of some disordered state, still existent in the asthmatic. Aretæus expressly says, "*in morbi cessationibus licet ipsi non decumbentes obambulent, secum tamen illius signum circumferunt;*" and indeed, in many instances, the countenance, gait, and manner of the patient, indicate but too truly the disease under which he labours. Without however going the length of the ancient, but most accurate observer, just quoted, it is certain that some functional derangement, or some confirmed local disease may generally, if not invariably, be traced in the asthmatic. In cases of mal-conformation of the chest there is an obvious cause; but in the absence of every other easily discerned symptom a shortness of breath, made evident by the slightest extra-exertion, will prove the asthmatic diathesis. Few, however, who suffer from this disease, are affected in precisely a similar manner. The symptoms are as various, as the causes are usually stated to be; and the variations in the duration, and recurrence of the fits, are equally as anomalous. In some, the nervous habit assumes a regular character, and its periodic returns are duly anticipated by

the patient. In the great majority of cases, however, much uncertainty prevails on these points.

Independent of the constitutional habit, there are a variety of secondary causes, which have more or less influence in retarding, or accelerating the attacks. For instance, if summer be the period of suffering, (and this is the more frequent form in the purely nervous asthma,) excessive heat may bring on the commencing fit as early as the end of May; but if the weather be cool, it may keep off till the close of June, or beginning of July. In winter again, the early setting in of the frost, or as the case may be, a continuation of a close, foggy state of the atmosphere, will exert a marked influence on the early or late appearance of the disease, when it co-exists with catarrh. The most violent and frequent attacks occur soon after the summer solstice.

On the abatement of the paroxysm, when it has been severe and of long duration, a sense of soreness, arising from the straining and unwonted exertion of the respiratory muscles, is usually felt for some hours subsequently. Both during the attack, and after its violence is abated, there is a painful feeling of fulness, and of undue

distension, in the region of the two solid, floating viscera of the abdomen, the liver and the spleen. This state, as well as the flatulence, and headache which I have mentioned as symptoms, and attendants, of asthma, are, in a certain degree, owing to venous congestion. The flatulence, which medical writers generally put down as a precursory symptom of asthma, is not, I have long remarked, apparent, until a succession of fits has established the dyspeptic habit in the patient; which is the result of the obstruction to the circulation of the blood in the chylepoietic viscera, arising indirectly from the congested or compressed condition of the lungs. To enter more minutely into the causes leading to this mechanical hypersæmia. In all varieties of asthma lesions of circulation may be traced; and to place the subject in a more distinct light, I shall quote a passage from my Treatise on Consumption, explanatory of the happy effects resulting from free respiration, in order by this contrast to give a clearer view of its contrary.

“ The mere expansion of the lungs in the first instance, tends indirectly to remove congestion of the liver, and also of the stomach, spleen, pancreas, and intestinal canal, all dependent on the more free circulation of the blood in the

-d-faction. The binary, as well as the great sali-  
 ll-vary secretion, is thereby promoted to a healthy  
 e-activity. Such morbid irritability of the mucous  
 y-membrane of the stomach as may be present,  
 e-productive of indigestion, is removed; the chyli-  
 e-ferent absorption belonging to the small intes-  
 ti-tines, so indispensable to life, is actively carried  
 e-both; and the injurious retention of superabundant  
 to-matter in the large intestines, is obviated by  
 d-ordered mucous moisture, and accelerated pe-  
 s-ristaltic motion.

I now proceed to the contrast; and do not  
 I know that I can explain the mechanical hyperæ-  
 mia existing in asthma better than by the follow-  
 ing passage from the same work:—  
 to ylet The blood of the right ventricle of the heart  
 is not finding a ready passage through the lungs,  
 afflicted as above-mentioned, causes a preter-  
 natural quantity of the same fluid in the adjoin-  
 ing auricle; and especially in the two great veins  
 opening into it. The consequences of this state  
 are head-ache, owing to interruption of the free  
 return of blood from the head; pulmonary en-  
 gorgement; through the difficulty the bronchial  
 veins experience in transmitting their blood; by  
 either its direct or circuitous course, into the  
 vena azygos; and serious derangement, or actual

disease, of the most important viscera of the abdomen. The superior cava, preternaturally full of blood, will, by retarding that fluid in the jugular veins, produce pain in the head ; and, by a similar interruption to the circulation of the vena azygos, besides interfering with the free return of the blood into the bronchial veins, it will, in some degree, impair the activity of the kidneys ; the due return of the effete blood of which organs depends on the freedom with which it is conveyed from the vena azygos into the vena cava superior."—P. 80. New Edition.

Pursuing this train of observation it will not, I think, be unphilosophical to suggest that the great debility accompanying asthma may originate, in some degree, from the want of a due supply of blood to the left side of the heart, and its arterial system.

Having thus presented the ordinary symptoms of the disease, it remains to ascertain the state of the respiration afforded by means of auscultation. No disease presents more anomalies in its auscultative diagnosis than asthma. This partly arises from the longer, or shorter period, during which the patient has been asthmatic, and is partly owing to other causes of a pathological nature. It has been stated that the inspiration yields little



or no sound ; but in most cases of nervous asthma examined by me, I have detected the presence of a more than ordinary mucous secretion in the trachea, more or less audible. Spasm of the posterior membrane of the trachea, as well as of the membrane of its cartilaginous rings, is, I am inclined to think, a general accompaniment of this species of the disease ; and this is pointed out not less by the impediment presented to the action of swallowing than by the peculiar manner in which the breath is, as it were, sucked in. The posture, too, in which the patient ordinarily sits, with his head inclined forward, favours this belief : and would seem to shew that the spasmodic contraction of the connecting membrane of the rings of the trachea, in some degree, induced this position. That the lungs do not receive their due proportion of air, is conclusively proved by the want of natural clearness in the inspiration.

Much variation exists in the auscultative signs, from the structural difference in the lungs occasioned by the habitual recurrence, or otherwise, of the disease. Thus, as Laennec has observed, the respiration is, in many instances, almost perfectly puerile ; although I do not conceive his explanation of this phenomenon to be

satisfactory. I feel convinced, from repeated observations, that portions of pulmonary tissue are at times subject to spasm, and that to antagonize the contraction, the other portions assume an extraordinary power of expansibility. Repeatedly have I heard that part which at first yielded a clear sound become less distinct, and the parts previously in a state of spasm, give out in their turn a puerile respiration. It has appeared to me that the portion influenced by spasm must by its contraction have the air contained within it forced out; and whilst the other parts were receiving the air inspired, I have, unless my ear, well-accustomed to such minutiae, deceives me, heard the counter stream from the spasm, or spasms of the pulmonary tissue, escape. This phenomenon must not be confounded with that of interlobular emphysema of the lungs, noticed by Laennec, as being of rare occurrence, and the peculiar sound observable in which he denominates the friction of ascent and descent. The latter occurs but rarely in asthmatic patients; whilst the former is met with early in the disease. The sound in this phenomenon, which I believe is now noticed for the first time, is less audible than the dry crepitous bubbling rattle

which is the characteristic of interlobular emphysema.

The character of the sound in asthmatic cases varies from a variety of circumstances. Thus the "*râle sonore*," the sonorous rattle, so far from presenting one uniform character, is divided into several sounds perfectly distinct from each other. At times, it resembles the sighing of the wind through the trees; at others, that of air violently forced through a tube, as is the case with the bellows of a forge; and in others again, it acquires a sharper sound, something betwixt a hiss and a whistle. The sound is occasionally broken into a kind of gurgling noise, like that made by a small brook; and, in some instances, like that produced by rubbing the finger over paper of a coarse texture, and uneven surface. This difference of sound depends, in great measure, on the state of the mucous membrane of the trachea; and is also modified by the spasm or spasms of the bronchi, as well as their membranous terminations, and on the quickness with which the inspiration is made. Where the paroxysm has been very severe, and the patient exhibits much debility, as well as when the attack occurs late in life, a subcrepitous,

watery râle is sometimes heard, the diagnostic sign of œdema of the lungs. To hear the respiratory process in this, as well as in most other diseases, and more particularly to discern the sound made by the expulsion of air consequent on spasm, an eligible method is to place the ear over the apex of the lungs, or over the fine edges of this organ approaching the sternum.

Another peculiarity, attendant on this disease, will be perceived by auscultation ; which is the irregularity and unevenness of the heart's action, occasioned by the effort it makes to overcome the opposing spasm of the respiratory apparatus. Percussion, in patients who suffer from permanent emphysema, produced by a long continuance of the disease, yields a sound clearer than natural ; but in recent cases, I have not observed this to happen. Much has been written concerning the immobility of the chest in asthma ; but this is only observable after a long series of attacks, and when the disorder has become habitual. From the over-exertion of the ribs, caused by excessive and repeated anhelation, their cartilaginous extremities undergo ossification ; and I have known this to happen before the age of puberty, the patient having been affected from childhood. When the disease dates from an early age, this

precocious change of structure from cartilage to bone prevents that enlargement of the chest, usually seen in asthmatics; but the chest partakes of the generally rounded form characteristic of the disease, and which arises in part from the antagonism offered by the muscles of inspiration to the contraction of the lungs. However, this tendency to ossify is not so marked in the nervous, as in other species of asthma.

This truly singular and terrible disease, "*morbus maximé terribilis*," as Willis terms it, is not infrequently hereditary; and this, with its fluctuating nature in some, and regular recurrence at stated periods in others, forms another marked feature in asthma. When we meet with cases in which the fits return invariably every month, as they often do at the catamenial period, or at the expiration of a certain number of months, or, as we have it on the authority of Heberden, after every seven years, the regularity of the occurrence coupled with similar phenomena in other disorders, would induce a belief that there were certain laws of nature, independent of the "seasons' difference" common "to mute and to material things," to which the health of man is periodically subservient.

One extraordinary instance of this singular

uniformity came under my knowledge in the person of a lady, a patient of mine, who, for eleven or twelve months, had alternate monthly attacks of epilepsy, and of asthma, and this with the greatest regularity : a strong proof, I may observe, of the purely nervous character of the disease.

Bonnet relates, in his "*Sepulchretum Anatomicum*," that he had met with a case of asthma alternating with dysuria ; and we find, in the "*Ephémérides des Curieux de la Nature*," an account of an asthma which attacked the patient, the moment he had composed himself to sleep.

Among my own patients, I have lately had a singular example of the mind's forming the essential circumstance of the disease. A female of the upper class of domestics, who was attacked with asthma, on her removing to the country, after having lived three years in London in the same situation, without any manifestation of her complaint, was seized, on her return, with a fresh paroxysm, just as she had obtained a new situation. Every thing had been arranged to her satisfaction, and she was on the point of setting off, (it being abroad,) when the poor creature's hopes were destroyed by this untimely attack.

Ever since, the same result attends her, when placed in the same circumstances; and no sooner does she obtain a situation, and prepare to repair to it, than on the very day, and almost the very moment she is about to enter her new abode, her complaint incapacitates her from embracing the opportunity.

Among other cases recorded by Heberden, in addition to the one before alluded to, he states that he has known some patients to remain free from asthma (after having suffered under it several years) for the space of thirty years; and he mentions that one person used to suffer from violent paroxysms for a single day, which would then cease, and after an indefinite period recur for the same brief space, endangering life from their excessive severity.

I have quoted these instances from Heberden, as I probably shall do from others, rather with a view of showing that I have not neglected the writings of those whom, as a member of the College of Physicians, I am bound to reverence, than for any high opinion of their science. A note-book like Heberden's proves his attention to appearances, but throws no light on causes. However, like the cabinet of the virtuoso, the curiosities the possessor cannot explain, others

may. I allude to the species of writing, not to Heberden. His fame was well-earned—for he wrote in Latin.

The primary, or proximate cause of the purely spasmodic asthma is unknown; but from many reasons, that may be grounded on the facts I am about to state, the inference will be that this species of the disorder positively depends on some alteration of the condition of the nervous influence. The suddenness of the attack, the irritable temperament of the patient, the sympathy betwixt the mind and body peculiarly observable in this form, its periodic recurrence, its hereditary character, and, above all, the non-existence in the few instances in which it has been possible to make pathological observations, of any perceptible organic lesion, however minute, all tend to the same point.

Nothing can be more various than the origin of this disease, as far as it can be traced. Almost every variety, however, is complicated with cold. Whether it depend chiefly on an affection of the trachea, or the numerous ramifications of the bronchi, or a peculiar state of the nerves, each or every of these influential and additional causes, is, for the most part, dependent on, or rather is complicated with cold. Hoffman observes, "*Quem-*



*admodum frigus omnibus nervosis partibus insensum est: ita maximè pectori deprehenditur inimicissimum. Quamplures mihi cogniti sunt casus ubi ex eo solo liberalius admisso tussés, asthmata spasmodica, et cardialgiæ atrocissimæ propullârunt.*" Again, he says, "*Si quid ex causis occasionalibus est quod asthma convulsivum inducere potest, certè est externum frigus, hostis ille nervoso generi inimicissimus.*"

Without, however, recurring to authorities, a very little experience will prove that the more ordinary apparent cause is cold. To say positively what is, or is not the cause, I cannot pretend to do; and until we are acquainted with the proximate origin of epilepsy and hydrophobia, I firmly believe this "*cruz medicorum*" will not be removed. Some injury done to the nerves of the chest, by cold or other means, would seem to be its most general exciting cause; but in this there is nothing positive. One of the best defined, and most exquisitely determined cases, that ever came under my knowledge, was in the person of a noble lady, wife of an officer of high rank, to whose immediate ancestor we are indebted for a large accession to our Indian territories. Convulsive asthma first seized her after

an attack of hooping cough, and I never witnessed the disease of a more purely convulsive, or a more distressing nature. In this lady there occurred a disturbed state of the mucous membrane of the trachea, with a decided catarrhal tendency, but the same symptoms may be noticed in other individuals without the manifestation of any asthmatic disorder.

Although the pneumo-gastric nerve sends out many filaments or branches to the lungs, in no other species of asthma does it appear so peculiarly excited as in the nervous. From various cases which have passed under my observation, this may, I think, be satisfactorily accounted for from some peculiar disposition of the nerves.

A gentleman, a patient of mine, from making the common galvanic experiment with a piece of zinc and of copper in his mouth, was seized with *tic douloureux*, and became an intense sufferer from it. He would pass the edge of his nail along his upper lip several times, as a sort of test, or criterion, of his state; when, if the liability to fits for the time being had ceased, no effect would ensue: but, if otherwise, no sooner was a certain minute point touched than he was thrown into the most acute agony. Coupling this with facts of a similar nature, such as lock-

jaw from a trivial wound, we shall have the purely nervous nature of the disease rendered highly probable; and it may, perhaps, be accounted for from an unusual distribution of the nervous filaments, as in the case of tic douloureux above-mentioned I would refer the obvious nervous influence to a sentient extremity of the nerve's being seated somewhat nearer than usual to the cuticular surface. The laws of sympathetic association of muscular contraction, will thus solve many phenomena of the disease. Although I certainly am inclined to think that some functional disorder, or morbid sympathy, of the nerves of the chest is the more immediate cause of true asthma; yet reasoning from analogy, it is far from improbable that its origin may sometimes be considerably removed from the seat of the disorder. Some years ago I was called to see a female who was suffering severely from tic douloureux. It was not until my second visit that I discovered she had lost a leg, which had been replaced by one of cork. Inquiring into the history of her case, I found that in order to wear the artificial one with the better regard to appearance, she compressed the stump of the amputated limb so forcibly, in inserting it into the false leg, as to constrict the nerves in a very

prejudicial manner. At least, conceiving this to be the case, I ordered her immediately to discontinue the use of it; and found, from the relief subsequently experienced by her, that my conjecture was right.

Here was an evident proof of the intimate connection existing betwixt the nervous extremities; or rather, as this required no additional proof, of the effect injury in one place might communicate to a more distant locality.

I may here mention that having understood from the domestic physician of a gallant nobleman, representative of his monarch in a sister kingdom, and who had lost a limb in the service of his country, that he had become subject to attacks of the same distressing complaint, I related the above case to Dr. M., and had the satisfaction of introducing him to my patient. Whether the hint was acted upon, I cannot say; but from a communication I received, with the thanks of his noble employer, I should trust that it had proved serviceable.

A writer, who appears to have used much industry in collecting materials for his work on Asthma, Dr. Bree, is of opinion that the spasm of the chest is an effort of nature to relieve the sufferer. Had he trusted to experience rather

than the dogmas of others, and inclined to fact rather than theory, he would have seen reason to retract this doctrine. Some time ago I enquired of him if he had ever employed auscultation; but he told me a defective state of hearing precluded him from its use. Otherwise the ear would have convinced him, that he had embraced an erroneous view of the subject. But, independently of this, we find that in the humoural asthma, in which the effusion of serum is considerable, the spasms are trifling; whilst in the nervous, at the commencement of which there is almost always a total absence of serous effusion, and its presence but slightly indicated at the end, that the spasmodic convulsion is of the most violent nature.

Following the observations of Dr. Whytt, who truly remarks, that the contractions of the abdominal muscles, and diaphragm, in pregnancy, tenesmus, and stranguary, are marked with a wise intention, he quotes from the same writer, with great satisfaction, the following indisputable error, where he asserts that "the increased motion of the organs of respiration in the fit of an asthma are the efforts of nature to free the body of something hurtful."

By a parallel reasoning, it might be asserted

that the lethal convulsion of the pharynx, consequent on a bite of the hand, for example, by a rabid animal, or the itching of the nose indicative of the presence of worms, were the efforts of nature to relieve the patient.

Because instances of mercy and wisdom are visible in many apparent disturbances of the human frame, it is an abuse of reason to conclude, that no alteration in the animal economy can take place unless to effect a relative good. Palsy might, on such inferences, be deemed a blessing; and the spasmodic rigidity accompanying tetanus the means of relief. A little reflection will show, that the inordinate muscular action in asthma is radically injurious. It lays the foundation for an emphysematous state of the lungs, which, although a blessing to an individual of a consumptive diathesis, is in other cases any thing but enviable. Thus frequent attacks of convulsive asthma generally end by rendering the disease chronic, and will even lead progressively, in some cases, from pulmonary or vesicular, to interlobular emphysema, and so induce the numerous train of ills which are complicated with asthma in its last and worst stage.

It is perhaps necessary again to observe that nervous, or convulsive asthma, strictly so called,

depends on some cause, or causes, hitherto unknown ; and that whenever the cause is definite, the disorder is a variety, and not a pure asthma. Thus in some individuals subject to attacks of gout, which have been suddenly arrested, or have ceased for an indeterminate period, a difficulty of breathing has taken place, accompanied by spasm, which may, or may not arise from the non-appearance of the usual fit ; but in either case, it is the pure form of the disease, since we know not in what manner the suppression of the gout can influence the chest. Simulation, or sympathy, is another exciting cause, as it likewise is in hysteria, and chorea ; and apprehension of an attack, the mere nervous dread of its recurrence, will not infrequently bring it on. The purely nervous nature of the disease is still further elucidated, by the paroxysms of asthma being often excited by powerful, and penetrating odours, such as those of ipecacuahna, the tuberose root, and other scents which are known to affect some individuals in a very violent manner.

A medical gentleman of my acquaintance was subject to sudden attacks of asthma, but how produced he was long unable to ascertain. At length it occurred to him that he was invariably seized after sleeping in a particular bed, which

had been presented to him by the captain of a ship in the Baltic trade. The feathers, from some process in drying, most probably emitted a peculiar smell, and to this he was led to ascribe the origin of his attacks; since on no other occasions did he ever suffer from them.

Here is an exciting cause, to all appearance; but the *modus operandi* of the odour on the nerves is so unknown to us, that we cannot venture to term it a proximate one.

Ferrus, in his ingenious article on Asthma, inserted in the "Dictionnaire de Médecine," has given a case of what he terms idiopathic, or essential asthma, which at the same time that it is instructive, is not a little characteristic of *la grande nation*. The patriotic feelings of the soldier, maddened at the sight of "foreign troops at the gates of the capital," furnish a little touch of the sentimental in the true Gallic vein. The case is as follows:—

"A young officer, full of talent and honour, grievously wounded in the last campaigns, but at the time in good health, returned in 1814 with his family to Paris, still occupied by the allied troops. He experienced so great a shock on perceiving foreign soldiery at the gates of the capital, that he was immediately seized with a sense of



uneasiness, and his respiration became difficult. This state became worse, and he had that very night a violent fit of asthma. The following nights he was equally distressed; and the intensity of the symptoms did not decrease until fifteen days after the first attack. M. Corvisart was consulted; and he perceived no certain index of organic lesion. The condition of the invalid was but little benefited by the most enlightened advice, or the most affectionate nursing. He repaired to the south of France for the winter, and entirely regained his health.

“ In 1815, the paroxysms of asthma recurred on his experiencing fresh griefs, but with longer intervals, during which his health was good. He was seized, in 1820, with severe intermittent fever of an obstinate character. In the course of a journey which he took during his convalescence, he was again attacked by an asthmatic fit, after taking a warm bath, and subsequently stopping some hours in a place of public entertainment. The expectoration, which did not come on till the morning of the following day, consisted of sanguineous secretion, and in great quantity. No change in the state of the circulation was observable. The invalid continued his journey, had a recurrence of the attack for

four or five following nights, and recovered without even observing a strict regimen. During the last ten months, his health has been good; he has devoted himself to numerous active exercises, and experiences no difficulty of breathing, except when mounting a stair-case too quickly."

I cannot conclude this part of my subject better, than by quoting the words of Delens.

*" Enfin, il faut le dire, dans quelques cas toutes les recherches des anatomistes ont été infructueuses, et l'on n'a pu rapporter la maladie qu'à une perversion de l'influence nerveuse, dernier retranchement où il faut bien nous réfugier en pareil cas pour ne pas être obligé d'admettre, comme nos prédécesseurs, des maladies essentielles, des maladies sans matière, bien qu'à vrai dire, notre explication ne soit pas beaucoup plus satisfaisante que l'espèce d'obscurité dont ils cherchaient à couvrir leur ignorance."*

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ANATOMICAL CHARACTERS OF ESSENTIAL, OR  
NERVOUS ASTHMA.

I have already stated that cases of pure asthma are extremely rare; and instances of the death

of patients from its attacks so much more so, that the pathology of the disease is chiefly conjectural. Out of numerous autopsic examinations which I have made of asthmatics, one only at all approximated to the uncomplicated form. This was in the person of a female, nearly thirty years of age, who, when advanced about four months in pregnancy, was so overcome with the sudden news of the arrest of her husband, that death was the consequence. She had been seized with a paroxysm of purely spasmodic asthma, from which for some months she had been free, and had been suffering under the attack about ten hours, when the intelligence was communicated to her. Her health previously had been very good, and the asthmatic fits appeared at long intervals only; although always with great severity. The dissection took place, about twenty hours after death. So far as I could ascertain, no difference in the symptoms was observable betwixt this fit, and her former ones. On opening the chest, about half a pint of serum was found within the cavities of the pleura. The lungs were uncollapsed, each nearly filling its own sac. They were somewhat ponderous, and had no cellular attachments, formed by false membranes, the usual result of any pleuritic affection. The anterior edges, and

part of the summits of both lungs, were emphysematous; and numerous white vesicles, of minute size, were perceivable beneath the pleura in different other parts. The lungs, on pressure, gave out, here and there, watery cracklings; and the touch of the finger, for a time, produced a visible indentation. On making sections of the lung in different directions, serum gushed out abundantly, frothing like porter; but towards the posterior part of the lung this assumed a sanguineous hue, from the gravitation of the blood towards that region after death. On a close inspection of the ramifications of the bronchi, nothing unusual was observed; but on examining the trachea, a considerable quantity of frothy mucus, of singular tenacity, presented itself, adhering to the surface of the mucous membrane; and on endeavouring to break the bubbles, they escaped from beneath the finger in the same manner, of course excepting that viscosity which retained them agglutinated to the membrane, as globules of quicksilver. There was a great contraction visible about the centre of the trachea, as if the result of the spasmodic constriction of the rings, occurring in the paroxysm previous to death.

In the case of an asthmatic, chief mate of a South-Seaman, and living in the New North

road, to whom I was called in to meet another physician in consultation, similar phenomena were observable. He died suddenly from spasm of the throat, of which he had previously experienced severe attacks, and I found on dissection, that towards the middle of the trachea, the cartilaginous extremities of the rings were drawn nearer to each other, so as to lessen greatly the circumference of its area; and viscid bullæ, like those described above, adhered to the mucous surface.

To resume the description of the morbid appearances; neither the epiglottis, nor the parts beneath it, presented any swollen appearance. On examining the heart, its vessels appeared unusually distended with blood, and the pericardium contained about an ounce of citron-coloured fluid. Both the right auricle, and the right ventricle were dilated, and displayed coagulated blood of the colour, and consistency, of black currant jelly. A small quantity of serum was effused in the pelvic region, resulting, probably, from a degree of congestion having prevailed, previously to death, in the stomach, and intestinal canal. On examining the uterus, the usual appearances connected with its impregnated state were presented. In the grooves of the convolutions of the brain, between the tunica

arachnoidea, and the pia mater, a small quantity of serum was effused. Save this, the brain presented no unusual appearance.

From these details I entertain no doubt that the chief, and immediate causes of death were spasmodic constriction of the throat, the existence of the tenacious bullæ, mentioned above, and sudden supervention of cedema of the lungs, each co-operating to produce suffocation. Indeed, I have seen several cases in which a sudden mental shock coming on individuals, long in an ailing state, by at once destroying the tone of the capillaries of the lungs, had brought on cedema therein, fatal to life within a very short period.

Reisseissen has so fully proved the muscular structure of the minuter bronchi, which Laennec also has demonstrated on branches of less than a line in diameter, that it would be superfluous to enter upon the anatomy of the part in order to prove its contractile power.

My own experiments had satisfied me, previously to the publication of the beautiful work of the learned German, that such was the fact; and I had been induced to pay more than usual attention to the point from having noticed, when dissecting a bear, that the cartilaginous rings

terminated at the root of the lungs, their continuous structure being membranous and muscular. Another circumstance, which I would throw out as a query, is, whether the pulmonary cartilaginous rings be not fewer, in such persons as are affected with essential asthma, than is usually the case. Opportunities of examining such cases are so rare, that I trust the hint will not be lost on pathologists.

It has frequently occurred to me that there exists a cause, hitherto unexplained, which, (in addition to the imperfect supply of atmospheric air, required for the necessary change from venous to arterial blood,) would, if verified, throw considerable light on the disease. From the constriction prevailing in nervous asthma in various parts of the chest, it would seem probable that some portion of the carbonic acid gas, formed in the lungs by the union of the inspired oxygen with the carbon of the venous blood, is retained in the air cells, part only being given out in the act of expiration. The vitiated air thus detained would considerably enhance the difficulty of breathing; and the irritation communicated both to the trachea, and bronchi, by the presence of this deleterious gas would, in many instances, occasion the constrict-

tion of those parts through sympathy. The rarefaction of the noxious air, so confined, would greatly heighten the pains and labour of the chest; whilst in aggravated cases of convulsive asthma the state, approximating to the asphyxial, which is seen to accompany it, would be satisfactorily accounted for. There are, I may observe, many points of similarity between the symptoms of asthma, when the paroxysms are unusually violent, and those attendant on some forms of asphyxia.

It has been asserted, as I have previously noticed, that the efforts of the muscles of inspiration are directed to overcome the spasm, wherever that may exist. Yet, if this were the case, if this were an attempt of nature to relieve the patient, we should expect to see the sufferer seconding this kindly interposition by every method in his power, and so far from dreading, welcoming each convulsive gasp. But, on the contrary, we invariably find that the asthmatic seeks to counteract this action of the muscles, by every possible means. We find him, instead of throwing himself back; and extending his chest so as to derive the utmost extent of benefit from this so called salutary aid, lean forward, and even stoop down with his head resting on the back of



his chair, and his hands firmly grasping it, in order by this position to counteract the extraordinary muscular play of the chest.

This alone is proof of the unsoundness of the above view ; since, were it correct, such a posture would increase the pain to intensity, and add to it by a sense of suffocation. So far as the external muscles are concerned, I have every reason to believe, that they are sympathetically affected by the state of the lungs. The tendency of the muscular action to expand the chest must occasion great agony to the patient, by the violence done to the lungs themselves, and the position, I have mentioned above, as being often resorted to in the height of the paroxysm, would seem to be an involuntary act on the part of the asthmatic to prevent an apprehended vacuum, although a vacuum is of course an impossibility. This posture also counteracts the descent of the diaphragm, which being spasmodically affected as well as the lungs, would, if unchecked, do the same violence to their fine, delicate, and spongy texture, as the laborious external action of the chest. Indeed, the sense of constriction, experienced by the patient, as if bound by cords, which is most acutely felt in a line drawn from side to side across the pit of the stomach, is, it is

reasonable to infer, occasioned by the spasmodic state of the powerful muscle of the diaphragm ; since the feeling of tension is observed chiefly in the direction of the digitations of the greater muscle, which, proceeding from the cartilages and bones of the six lower ribs, intermix with the digitations of the transversalis abdominis muscle.

It has been inferred that the muscles of the glottis are the seat of spasm : of a momentary one, in some cases, perhaps, I will grant, but no more ; for, it is evident, that spasm of a few seconds' duration would terminate existence. Were I asked my opinion as to the locality of the nervous affection, I should say that it commences in the upper part of the elastic fibrous lamella, which includes the cartilaginous rings, and completes the circuit of the trachea posteriorly. Hence it descends into the bronchi, and their ultimate divisions, and like what occurs in cholera, when spasm shifts from one portion of the intestines to another, there is an alternation of contractility, as well as of irritability, from one part of the lungs to another. The mucous membrane may not improbably undergo spasm, in conjunction with the above-mentioned parts, and the cellular membrane of the lungs also, without our being able to detect the slightest vestige of mus-

cular fibre, as well as in the air cells themselves ; since we are certain of the vital property of contractility, inherent in animals of almost a mucilaginous consistence.

Nothing can be stronger than this analogy between the spasmodic state of the lungs, and that in cholic. Its sudden flying from one part to another, the sympathetic relation betwixt the internal convulsion, and the external muscular labour, just as in cholic, the spasm of the intestinal canal is communicated to the muscles of the abdomen, all show by comparison the purely nervous nature of this form of asthma. Two species of contraction, and I am not aware that this has been pointed out before, concur in embarrassing the patient, and increasing the spasmodic affection by rendering it a compound one. The position noticed above, as peculiarly affected by the patient; proves that there exists a longitudinal contractility, from the commencement of the trachea downwards, through the ramifications of the bronchi, even to the aerial vesicles ; and from the formation of the above parts, I would infer that there is also a transverse constriction of the lungs themselves.

It is, indeed, impossible to refuse assent to this when the existence of the circular muscular

fibres, appointed for contracting the bronchi, has been demonstrated by Reisseissen, and other eminent pathologists, to whose testimony I may add that of my own experience, which had led me to the same conclusions some years ago.

Again, this power of contractility would betoken that of expansibility : and when we consider that the depression of the chest alone could not operate so powerfully, as to unload the whole volume of the lungs of the air contained within them, although it doubtless aids in freeing the cells contiguous to its walls, there is an amount of proof, approaching to certainty, that the lungs are more than passive, that they possess an organic power of self-mobility : in other words, contract and expand in virtue of their own inherent properties, as well as through the influence of external agents. It appears to have been generally overlooked, that although the thoracic muscles of expiration belonging to the chest are feeble, when compared with those of inspiration, there is a series of actions dependant on the abdominal muscles, which compensates this want of antagonism on their part. When the attack has been inordinately severe, and the tonic spasm of the trachea strongly indicated, I have noticed this action of the muscles of the abdomen, which

does not seem to cease until it has operated a transfer of the spasm, to some other part of the pulmonary apparatus, or else entirely overcome it.

The anatomist is aware that the action of these muscles is not confined to the viscera of the abdomen; but that their agency extends to the thorax and pelvis. If these be fixed, the abdominal muscles, through their contractile power, can both constrict the chest, and compress the viscera; and to their power of effecting these changes I would ascribe the relaxation of the bowels, and the discharge of the urinary vesical contents, frequently observed after the commencement of an asthmatic attack. And when the vertebral column is fixed, the quadratus lumborum by drawing down the last rib, and having this motion extended to the others through the mediation of their intercostal muscles, becomes a powerful auxiliary to the process of expiration. The notion of the abdominal muscles operating less powerfully, although it is acknowledged that they act more freely than usual in asthma, seems to me groundless; and to have arisen from the not having perceived the exact uses, to which they may be rendered subservient in the animal economy.

Continuing the explanation of the anatomical characters of asthma, and proceeding to consider the innervation, or nervous influence, we shall find,—from the intimate connection of the various parts of the frame, even the most distant, by the wondrous distribution of the nerves—that any functional derangement of one set of nerves may become a centre, whence, by anastomosis, the others may be sympathetically affected; as, for instance, in the event of cold, or any other exciting cause, disturbing the harmony of the respiratory apparatus.

In order to produce constriction of the bronchial tubes, whether with, or without any organic lesion, the pulmonary plexuses, which terminate in fine filaments, losing themselves in the lining mucous membrane, are unquestionably concerned.

Let us, in the first place, trace the nerves, which chiefly supply the lungs, through the medium of the anterior, and posterior pulmonary plexuses; and, as we know, that the *nervus vagus*, the second fasciculus of the eighth pair, aided by the intercostal nerves, contributes to the formation of each of these: it is then to the course of the *nervus vagus*, that we must look for the channel by which an interchange of sympathy may be conveyed,

either from the nerves of the lungs to the cervical region, or the abdominal cavity, or may be reflected to them from these parts.

Previously to the union of the branches of the nervus vagus, so as to form the pulmonary plexuses, this nerve gives off on each side the inferior laryngeal or recurrent; the one, on the right, to reach the side of the larynx; and the other, that of the trachea. These recurrences, likewise, send off to the cardiac nerves, and the lungs, filaments; some of which, besides supplying the trachea and thyroid gland, are distributed to the net-work, formed by oblique and transverse branches from the par vagum, and termed the œsophageal plexus. From the junction of the pulmonary plexuses, with the filaments of the cardiac plexus, which latter is chiefly formed from the cervical ganglia, the circulatory functions of the heart will be more or less affected; and through irritation communicated to the cervical ganglia, from the pulmonary plexuses, by either the recurrent, the superior laryngeal, or the other branches of the vagus, &c.—the larynx, trachea, pharynx, and œsophagus will share in the affection.

The actions of the muscles, concerned in respiration, are chiefly governed by the con-

nexion of the par vagum with the sympathetic, the phrenic nerve, the external respiratory nerve of Bell, as well as with the spinal accessory, or the superior respiratory nerve, of the same distinguished anatomist, &c. ; and thus, by the distribution of this division of nerves to the larynx, as well as the pharynx, and their prolongations in the anterior part of the neck, the occurrence of spasm in these parts is easily accounted for.

Again, from the close connexion between the larynx, and the eighth pair of nerves, many of whose branches anastomose with other nerves concerned in respiration, we can at once account for the mode in which the whole respiratory system is called into activity. The intimate union of the par vagum, with the glosso-pharyngeal branch of the eighth pair, and this, by its communications with the other lingual, as well as the facial nerves, also explains the association that exists between the alterations occurring in the deglutition, countenance, voice, &c.

The operation of any ingesta, or of medicine, on the stomach, in asthma, or the irritation communicated to the chest when this viscus is deranged, is forwarded through the medium of the par vagum, which supply it; as well



as through the œsophagean plexus of the same pair. So, likewise, the transmission of the influence of a morbid condition of any of the organs of the abdomen, or the pelvis in part, to the thoracic, cervical and cranial regions, or *vice versa*, is referrible to the distribution of the secondary plexuses, of the great solar plexus, to those organs : whence the action is carried upwards by means partly of the vagus nerves, and subsidiarily, in one direction, by the phrenic nerve, some of whose branches communicate with the solar plexus, through the diaphragm, and which nerve passes in front of the root of the lungs, as we trace it upward to its origin from the third, fourth, and partly the fifth cervical nerves. In another direction, a continuous sympathy, with any derangement of, or action, on the stomach, may be communicated from the semi-lunar ganglion, through the greater splanchnic, which is given off from a variable number of the internal branches of the thoracic ganglions ; through these last, the intercostal nerves are also excited, and the action is carried up directly to the cervical region, through the medium of the inferior and superior branches of the last-named ganglions, until the junction of the first thoracic with

the inferior cervical ganglion. Hence the link of sympathy continues to be formed by the middle, and superior cervical ganglions.

Regard for the patience of the general reader compels me to bring this, to him, I should presume, somewhat complex detail, to a close. Its importance, however, may well demand, at some future season, a more extended examination. I shall, therefore, only add, that the region of the kidneys may, in some degree, be brought to sympathize with any of the deranged functions, hypothetically stated above, through the lesser splanchnic; which, formed by the union of two or three twigs from the last thoracic ganglions, gives off a branch to the semi-lunar ganglion, and another to the renal plexus.

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Having now dwelt, more fully I believe than the generality of writers on the subject,---on the anatomical characters of asthma, I shall take the opportunity, before I enter upon the consideration of its treatment, of making a few general remarks, in addition to my preliminary observations on its pathology.

I have before adverted to the operation of

mental causes, in producing this disorder. Various passions of the mind contribute, in numerous cases, to generate, or rather, to predispose to asthma; and, among these, there is one whose agency has not, perhaps, been sufficiently attended to.

A very natural mode of accounting for the progress of this complaint, as it degenerates into a periodic one, is, I would suggest, to refer to one of the most powerful passions which agitate the human frame—fear. A fear, too, that in some temperaments may insensibly operate almost from the termination of one attack, to produce another. However, although this, generally speaking, is a not improbable account of the mode in which this disease, may, at times, become periodic, I am not so wedded to theory as to deny that there are many cases, in which all strict reasoning on the subject is baffled.

From the time of Willis the nervous nature of the disease has been generally recognized, and, in his concise description, he notices this tendency of the mind to bring on the asthmatic access. "*Quicquid igitur sanguinem effervescent inque orgasmum concitat, uti motus violentus corporis aut animi, \* \* \* prædispositis insultus asthmaticos accersit.*"

Dr. Bree affords us two or three interesting cases, which well exemplify the influence of imagination on the body. "A lady had been thrown into terror," he relates, "by a footpad, and, for the first time, sustained a series of hysteric fits. Her constitution became feeble and acutely sensible. The disease returned, on smaller alarms, for many years afterwards, and particularly in consequence of slight circumstances which referred to the attack, though entirely distinct from it. After three years, during which interval she had diversified her impressions in a distant neighbourhood, she passed in a carriage along the road, and near to the spot where the assault had been made; when affected by the chain of ideas, and her attention to them, she relapsed into strong convulsions."

Another striking instance of the force of habit is thus narrated by the same writer. "A female had been long subject to dyspeptic complaints, and to irregular secretions of bile. She married at twenty-five years of age, and then found it necessary to employ herself in business, and to attend with great care to an increasing family. These objects gave her the most care on Sundays, on which day she gradually became more indisposed with hemicrania; but, on the other six

days, she had her usual health. In ten years the complaint was much aggravated, and it affected her earlier by a few hours, but did not cease sooner than before. In this form the intermittent disease continued for several years, evidently excited by the great anxiety and fatigue of one day in the week. Her situation was again altered: Sunday became a day of rest, and an improvement of circumstances diminished her general anxiety. It might be supposed that the hemicrania would be lost with the impressions which brought it on, but it still returns at its former periods, being linked with ideas of relation that arise from external circumstances. It is probable," continues the Doctor, "that a complete change of residence, by which the impressions might be obliterated, would destroy the force of habit, and overcome the disease."

A physician, of some repute at Kilkenny, and who wrote on asthma in 1792, gives several cases in which the operation of mental anxiety, in generating pure asthma, is obvious; although no particular stress is laid on this, as an exciting cause, by the writer. "Mr. H.," he writes, "ætat. 30, of a melancholic temperament, and subject at times to vomitings, lowness of spirits, giddiness, and other symptoms of hypochon-

driasis, at length was suddenly seized with a slight fit of the asthma, about twelve o'clock at night. About the same hour every night for the space of three weeks, he had an attack, and every succeeding one was more violent than the former."

This case will, I think, fairly come within the limits of the theory suggested by me a page or two back. The apparent cause of the primary attack was that inexplicable action of the mind on the body, which we feel, but cannot comprehend; the succeeding ones may be referred partly to fear, and partly to the latent presence of the seemingly removed disease, which, as has before been stated, is frequently existent in numerous instances, when the restoration to health is presumed to be certain. One of the most curious instances of nervous apprehension, which I have met with, is in the person of a patient of mine, who never dares to walk down the Kingsland road, as the sure consequence of this promenade is a fit of the asthma. So sudden is the effect of this unfortunate association, that he cannot proceed more than a mile from Shoreditch church without experiencing the presence of the "foul fiend." In this case, too, although the attack appears to be almost instantaneous, we may be sure that fear

is operating upon him, from the moment he knows that business may force him to take this obnoxious way. His own impression is, that it is the coldest road about London; and that he invariably catches cold as soon as he visits its dreaded precincts.

Laennec relates a curious anecdote of an aged nobleman, who had been subject to slight cough for thirty years, with expectoration of a pituitous nature in the morning. His asthmatic attacks were, it seems, infrequent; but if through any accident his bed-room door was inadvertently shut, or his night-lamp had gone out, he was certain to awake immediately with a feeling of suffocation, and in a few minutes after to become insensible.

It appears highly probable from the circumstance of the door of the bed-room being left open at night, as well as the having a light constantly burning, that there must have been some superstitious fear, or perhaps dread of thieves, uppermost during the "watches of the night," in this gentleman's mind. There was evidently some mental cause which made "his seated heart knock at his ribs against the use of nature." As to his sudden awaking, that may be easily explained. The noise made by the

closing of the door, or the smell of the expiring lamp, would be sufficient to wake from uneasy slumber a person so nervously constituted. His fears would be at once excited; and under so powerful an agent as fear, the asthmatic symptoms in one predisposed to them, would be speedily developed. This solution, too, is strengthened by the deliquium which followed.

Another singular instance of the influence of habit, or rather of the generation of an essential asthma, through the ultimate effects of long ill-health on the nerves, is given by Dr. Whytt in his work on the nervous system. "A girl," he writes, "healthful, well-made, and of a seemingly good constitution, began, at the age of seven years, to complain of a pain at the lower part of the sternum; this pain, which returned after no certain intervals, became gradually more severe during the space of nearly two years, after which, in place of it, the patient began to be affected, at times, with a difficulty of breathing, which returned frequently, without observing any certain periods; as a week, a fortnight, or a month would sometimes intervene between the fits. She was generally seized with the fits all at once; and after breathing with the utmost difficulty for half an hour, sometimes more than



an hour, she would, of a sudden, become perfectly well, and fall a dancing immediately after with her companions. It was observable that this girl had no complaint of her stomach, no cough, nor other apparent fault in her lungs; nor did she usually expectorate phlegm when the fit went off: and, except in time of the asthmatic paroxysm, breathed with the same ease as any person in perfect health."

Nothing can prove the difficulty attending pathological enquiries, and the disappointment frequently experienced in their result than the fact, that from the time of Willis, who was the first to observe the nervous character of uncomplicated asthma, down to the publications of Laennec and Andral, no light has been thrown on this seemingly inexplicable disease from morbid anatomy. All agree that it is impossible to discover any lesion; or from *post-mortem* examinations to assign any cause for the presence of the disease.

By way of illustrating this continued ill success, and at the same time to point out how even failure in these researches may contribute to the eventual advancement of science, I shall give a few quotations from the cases adduced, and the reasonings entered into, by these celebrated phy-

sicians at periods so far removed from each other. To give the older writer the precedence. Dr. Willis describes, amongst others, the following case :—" *Virgo lectissima, constitutionis teneræ ac gracilis, atque vultus floridi, vix secundum ætatis suæ lustrum prætergressa, paroxysmis asthmaticis graviter tentari cæpit ; iisque priusquam curæ meæ delegatur, quatuor ut minus annos obnoxia degit ; interdum morbi hujus insultu quovis, per duos aut tres menses immunis perstat, &c.*" He proceeds to state that from various causes, the paroxysms often assumed the severest character, and would last for seven or eight hours. At first these attacks would be repeated every week or fortnight, but after, (to use his own phraseology) "*morbi impetus, materia ejus in plures ejusmodi paroxysmos impensa, pertransiit,*" she would remain for months at a time without their recurrence. Of this, and other similar cases, he observes, "*in his etiam casibus, nihil apertius constare videtur, quam morbi causam absque phlegmate, aut humore viscoso pulmonibus uti vulgo creditur, impacto, intra nervosum genus subsistere ; atque dyspnœam hujusmodi mere convulsivam, propter nervos pneumonicos, affectione spasmodica occupatos, excitari.*"

In support of this truth, as he declares it to be, he brings forward an examination after death, communicated to him "à Medico Doctissimo D. Gualt. Needham," which he details as follows:—" *Rettulit mihi, vir insignissimus, se novisse Lanium Wallsalliensem in agro Staffordsiensi, qui cum diu laboraverat asthmate periodico, intra 14 vel 20 dies, ut plurimum, recurrente, tandem in ipso paroxysmo extinctus est. Cadaver apertum exhibuit viscera omnia sana, præsertim pulmones, neque aut excrementi in bronchiis collecti, aut sanguinis in venis restagnantis ulla indicia prodita sunt. Hoc tantum præter naturam accidit, quod vesica fellea calculos complures in se continuit. Cætera (subdit ille) vel generi nervoso affecto tribuenda erant, vel causas nobis ignota, certè oculis non conspicuas.*"

The presence of calculi, as far as regarded the asthmatic disorder, could have had little, or no effect; and so Willis would seem to have considered from the slight notice he gives to the circumstance. From the imperfect state of pathology at the period, it is far from unlikely that other appearances, which would have changed the aspect of the case, were overlooked; though, indeed, the same might occur in our time.

To come to a more recent date. Laennec, as we have seen, states that cases have been carefully examined by him, in which, after the minutest research he could discover no organic lesion, to which the asthma was referrible. He quotes, in confirmation of this, a case recorded by M. Andral, in which a suffocation supervened to the stoppage of a discharge from an ulcerated leg; and, on examination, the lungs were found to be sound, with the exception of a small hepatized point, in the left lower lobe, of less extent than the tenth part of the lobe; the heart, and other organs, being sound.

Thus far, we see these writers agreeing in the pathology of the disease, and its uncertain nature, when the lapse of nearly two centuries betwixt them, would lead us to the supposition that an increase of knowledge would have given more certainty to the subject. I have stated that even failure may contribute to the progress of science, and, I think, I shall be able to verify the assertion in this instance. Reflecting on the strangeness of the existence of a disease, without any morbid phenomenon, and led likewise to prosecute the enquiry by cases which have convinced me, that a state existent previous to death may be completely obscured afterwards, I feel confident that

there are cases in which an oedematous condition of the lungs, is an attendant on this form of asthma, in its aggravated stage; but that the active absorption which takes place immediately after death has prevented its being observed. This condition, too, is the more likely to have escaped notice, from the rarity of the instances in which dissolution is the immediate consequence of nervous asthma.

It is deeply to be regretted that our own writers on this disease should not have been more anxious to investigate its pathology, than their works would evidence. From many circumstances in cases detailed by them, I am induced to believe that many important states have been either overlooked, or misunderstood. Had due attention been given to the subject from Willis's time to the present, we should have had a rich harvest of facts on which to reason. As it is, we are presented with innumerable details, gleaned from the works of men who wrote at a period, when the art of minute dissection was in its infancy; and when, consequently, many appearances of consequence to a full understanding of the case must have escaped notice.

Dr. Bree gives us many such; and what he relates, as coming under his own experience, is

far from unexceptionable. Indeed, his pathological views are altogether meagre and irrelevant; those cases, which he adduces as belonging to the uncomplicated form, being merely symptomatic.

The two cases, recorded by Dr. Millar, bear full and explicit testimony to the contempt which he seems, from an overstrained interpretation of the words of Celsus, to have imbibed for morbid anatomy. The Roman writes, "*Neque quidquam est stultius quam quale quid in vivo homine est, tale existimare esse in moriente, imo jam mortuo;*" from which Dr. M. would infer that pathological enquiry is a species of stumbling block in the way of science. He says, "the only dissection I ever made in this disease, was of a child, &c." The other he gives as reported to him by others.

Now, it is evident from this modicum of experience possessed by him, that he could not have understood the appearances of the parts when presented to him; and it is most probable, that the disease he took for asthma was some tracheal, or bronchial, or some inflammatory affection.

A work on Asthma was published in 1786, by Thomas Withers, physician to the York

County Hospital, which is a most curious production. Case after case is brought forward by this gentleman, with the most imperturbable gravity, in which he solemnly relates the symptoms of what he is pleased to term Convulsive Asthma, accompanied by spitting of blood, &c.; and assures us of their having been cured by the exhibition of James's powder, and similar remedies.

To those who have read my work on Consumption, I need hardly point out the fact, that in those instances, his several patients were actually consumptive, and were cured by the supervention of the catarrhal state, which the learned Doctor imagined to be asthma. Had he consulted nature, and pursued a course of pathological examinations, he might have anticipated, what I have since discovered, that in asthmatics of some standing, the lungs are always voluminous; and that by becoming so, the progress of phthisis is certain to be arrested.

It may not prove uninteresting to quote a few of his cases, as strongly confirmatory of my views on Consumption. In Case 32, he states that John Moor had convulsive asthma, complicated with spitting of blood, a pulmonary consumption, and an abscess in the lungs, which last broke and discharged a considerable quantity of blood; pu-

rulent matter, and skinny membranous substances. This was cured by tinctura thebaica, milk diet, and gentle riding exercise.

Of Case 34, he says, The convulsive asthma, complicated with pulmonary consumption, succeeding an inflammation of the lungs, treated successfully by tinctura thebaica, cordial mixtures, laxatives, and country air.

Case 45 is, The convulsive asthma, complicated with an abscess in the lungs, and a spitting of blood, along with a symptomatic fever, cured by James's powder, &c.

In Case 46 we find, The convulsive asthma, complicated with a fever, spitting of blood, and ulceration of the lungs, cured by James's powder, and tinctura thebaica.

And, to end this "strange, eventful history," we have, in Case 48, The convulsive asthma, complicated with a spitting of blood, and a quotidian intermittent fever of three months' standing, cured by the Peruvian bark.

More might be selected, bearing on the same point; but here are sufficient for the purposes of proof, and instruction. Mercy on us, what wonderful qualities are here ascribed to James's powder, bark, and tinctura thebaica! in modern phraseology, laudanum; or, in medical parlance,



tincture of opium. It requires no reasoning to convince any one capable of "discourse of reason," that there must have been something more powerful at work than these remedial agents.

The supervention of catarrh, attended with difficulty of breathing, it is evident, stopped in the first instance the consumption, possibly to the healing of an abscess; and the catarrh, doubtless, subsequently ceded in part to nature, or his *materia medica*. But I doubt much his cures having been permanent. If they were, in the majority of the cases, the consumption must have been renewed, and death must have ultimately followed his officious interference.

This same Galen of the north gives an amusing specimen of his skill in conducting pathological enquiry, in the examination of the body of one John Strickney. All that he appears to have found was water—water in the abdomen—water in the chest—water in the pericardium—and, had he opened the cranium, he would doubtless have found water there also!

On the whole, he appears to have been just as fit for the situation he held of Physician to a County Hospital, as many of our metropolitan ones, (i. e. up to a very recent period,) who, whatever else they might do, abstained as reli-

giously from meddling with a dead body, as if they were converts to the Hebrew faith.

To bring these somewhat desultory remarks to a conclusion. The predisposition to asthma is very generally apparent, in individuals of a defective constitution, and morbid temperament. In numerous instances, it may be traced to the transmission of the nervous susceptibility of receiving impressions, injurious to the respiratory functions, from parent to child. How frequently indeed do we see a kind of general disposition handed down, from one generation to another; sometimes immediately, at others with the intermission of one, or more generations. And we frequently find that the more intimate the moral, no less than the physical organization of two individuals, the one in the ascending, the other in the descending line; the more probable is it, that the latter will inherit the morbid peculiarities of the former.

In confirmation of his views of the hereditary nature of asthma, a foreign medical writer gives the following curious history. "A child, born of non-asthmatic parents, contracted dyspnoea through exposure to cold, and subsequently became a prey to chronic asthma. On arriving at puberty, the fits diminished in intensity; and,

after marriage, through excessive care, and a strict regimen, his sufferings were sensibly ameliorated. He had three boys, and four girls; of whom, three of the girls became asthmatics. One of these, whose fits of asthma were always brought to a close by a mucous expectoration, had, upon her marriage, several daughters, of whom the youngest only inherited her mother's complaint; and this she did in every particular. The eldest of her daughters married a young man, equally as exempt from asthma as herself; and out of a family of six children, the fourth became asthmatic, precisely in the same degree and manner as his grandmother."

We do not find, in this singular family history, that any of the descendants, of these asthmatic progenitors, ever became consumptive.

**TREATMENT**  
**OF**  
**ESSENTIAL,**  
**OR**  
**NERVOUS ASTHMA.**

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**EXTENSIVELY** engaged as I have been for a series of years, in investigating diseases of the chest; and enjoying the opportunities afforded by the situation of Senior Physician to an Infirmary, expressly devoted to this class of complaints, I have witnessed but a very trivial number of cases, of what I could strictly call pure asthma.

The first circumstance to be considered in the treatment of this disease, is the exciting cause; and in the next, the complications of organic, or nervous affection, with which it may be allied. When purely nervous its character will be in-

fluenced by distinctions of age and sex ; its mental or physical origin ; the locality and constitution of the patient ; with numerous other minutiae, to which the attention should be especially directed. Generally speaking, as some form of spasmodic irritation is always indicated, the removal of this will be the primary object.

Again, it is not sufficient to attack the disease when the paroxysm is at its height ; but after alleviating the present suffering, the period of intermission must be diligently used, as the only time for effecting a cure. In conformity with this principle, it will follow, that the commencement of a fit should be sedulously observed, and vigorously grappled with. Perhaps the most difficult form of this disease is that, in which the asthma is an hereditary complaint, and is, as it were, connate in the constitution. When the patient is aware, either from previous experience, or from observing in himself those symptoms which have been mentioned in the preceding chapter, that an attack of asthma is on the eve of seizing him, or when already seized, I have found the exhibition of a mustard emetic produce the most satisfactory results. From a tea, to a desert spoonful of mustard, should be mixed with a quart, or three pints of warm water, and a tea-

cup full should be taken, at intervals, until the wished for effect be excited. The sickness will be found to remove the distressing constriction of the chest, and to dissipate that flatulency, and sense of fulness, from which so much inconvenience is experienced.

A patient of mine, who suffered from nervous asthma in the West Indies only, assured me that he almost always proved this simple remedy to be effectual.

It is expedient, when there exists much acidity in the stomach, and the eructations are troublesome, to combine a tea-spoonful of calcined magnesia, or of prepared chalk, with the mustard. Whenever I have found an objection on the part of the patient to this prescription, I have substituted, in its place, 20 grains of ipecacuan with half a grain of tartarized antimony; this, indeed, I in general prefer to the former, although I have seen instances, in which the mustard emetic has proved singularly efficacious, in arresting the precursory symptoms.

The distinction I would lay down to direct the preferable use of the one to the other, is, that in cases of periodic asthma, I have usually observed the mustard emetic to exert the most favorable influence; and that when the attack has been

suddenly induced by cold, or over indulgence in point of food, the other form has seemed the more appropriate and successful. The simple sensation of nausea will often prove no less advantageous, than actual vomiting. The last operates by determining to the surface, and effecting a change in the seat of the convulsive action; by the first, this action is lessened through the decrease and relaxation of the living power. In the absence of every inflammatory sign, I have been induced to try sulphate of zinc and other emetics; but I consider these as inferior to the formulæ first mentioned. It is, however, advisable to avoid the too frequent repetition of medicines of this nature, since they are apt on recourse being had to them too often, to lose their effect. They are also to be avoided in patients of a full habit, or who exhibit any tendency to a determination of blood to the head.

A few years ago, a very interesting case of periodic asthma was presented to me in the person of a patient, who had been in the first instance an asthmatic subject, and had afterwards contracted ague. It appeared, by his shewing, that he had experienced two or three paroxysms of convulsive asthma, and subsequently to the last attack, had passed a year without under-

going any recurrence of the complaint. At the expiration of this period, he had occasion to go for some time to the lower part of the county of Essex, and thence returned to London. About three months after his return he caught some slight complaint, which affected his general health ; and on this the symptoms of intermittent fever (the seeds of which were doubtless laid during his residence in Essex,) manifested themselves. At the time he first consulted me he had got rid of the ague, the asthma had returned, and about every fortnight he was seized with an attack, which ushered in with all the symptoms of the cold stage of an intermittent, regularly terminated in convulsive asthma. It was after experiencing several of these attacks, that he applied to me ; and I recommended him, as I usually do in ague uncomplicated with visceral disease, to take, on his next seizure, a draught containing five-and-twenty drops of laudanum ; and, if no relief followed, another draught containing five drops less. For the second dose, however, there was no occasion ; and on the manifestation of another attack, about a month afterwards, this prescription proved equally successful in averting the threatened paroxysm. It is necessary to add that a few hours after the exhibition of the opiate, he was



directed to take a grain of sulphate of quinine every four hours, and that this was continued for three or four days. When the threatenings of the second attack were averted by a similar course, fearing that some visceral congestion might exist, I ordered him to take a grain of calomel, combined with extract of gentian, night and morning, for a week. Some months afterwards I lost sight of him ; but up to this time he enjoyed uninterrupted good health.

From the variable nature of the pure asthma, as of all nervous complaints, no one remedy is applicable in every, or indeed in the majority of cases. What will prove effectual with one individual, will be entirely nugatory with another. It is with the nervous affections of the body as with those of the mind, however similar to all appearance the disorders mental, or corporeal, of different persons may be, the reasonings, and the medicines, which will succeed in one instance, will fail, or even aggravate, in another. Thus, when I have found none of the above remedies beneficial, I have resorted with success to an infusion of tobacco, consisting of ten grains, or more, of the common leaf to a pint of water, to be used in the form of an injection. Though purging is, generally speaking, not to be recommended,

especially when the lungs of the patient happen to be voluminous, (which is usually the case in asthma of long standing,) yet otherwise at the commencement of an attack of the purely nervous kind, I have experienced the most beneficial results from the exhibition of calomel, combined with some aloetic pill. Wherever there is reason to apprehend the existence of constipation, or some indigested aliment in the first passages, such a course is highly advisable.

At my outset in practice I fell into an error, then common in the medical world; and aware that diseases of the chest were frequently connected with dyspepsia, I accordingly used to purge my asthmatic patients, until experience, and a little reflection on the anatomical characters of the disease, taught me better. I was not long, indeed, in discovering that after a series of attacks the lungs become enlarged; and having once established this fact, it was evident that to purge would, by allowing too great freedom to the diaphragm, increase the difficulty of respiration; since the lungs already preternaturally enlarged, are incapable of expansion so as promptly to follow its downward motion.

From the time of Willis, who lays down as a rule, "*id sedulo agatur ut medicamenta anti-*

*spasmodica, thoracis, intentiones quascunque respicientibus, aptè complicantur,*" anti-spasmodics have been very generally used; but I have not found any great benefit derivable from them. The most efficacious mode of using them, however, is in the form of injections. Half an ounce of oil of turpentine, or more, combined with the yolk of an egg, and mixed with barley-water so as to form a six or eight ounce enema, or else the assafoetida mixture, to which a grain of acetate of morphine may be added, may be advantageously employed in some cases. Exhibited in this form they are less likely to prove injurious stimulants, than when taken as a draught; and when not at first efficacious, they may be repeated after an interval of half an hour.

The asthma is so rarely of a purely nervous nature, that too much caution cannot be used in their administration, since when complicated with any bronchial affection, their stimulating properties will do more harm by the excitement of inflammatory action, than their operation as sedatives can do good. The principal anti-spasmodics, which may be employed, are musk, castor, cardamine, gum ammoniac, the æthers, assafoetida, camphor, and valerian. These may be, at times, serviceably combined with nitrate of pot-

ash, ipecacuan, and articles of the narcotic tribe, as hyosciamus, conium, &c. Compound spirit of lavender, and spirit of aniseed, with a few drops of laudanum, have, in some cases which have come under my care, produced the most desirable results. Since the disease, when it has once manifested itself, is not unfrequently reproduced by cold, the bathing of the feet in warm water, and using warm demulcent drinks, will, at times, assist in arresting the precursory symptoms.

Floyer states, "I know an asthmatic, who, upon any tendency towards a fit, drinks plentifully of milk and water, which presently allays the inflation of his stomach."

I might enlarge upon this branch of my subject by enumerating many substances, and various forms of medicine, which my patients have assured me they have found productive of relief; but so uncertain is the treatment of this, the pure form, and so much depends on the fancy, as well as the constitutional habit of the patient, that I might fill a volume with similar details. Sufficient has been said to indicate the more generally applicable, and salutary modes, of treating the disease in its precursory stage; and I now proceed

to consider the means to be adopted during the presence of the paroxysm.

First upon the list of the measures prescribed by most writers on the subject, we find blood-letting; which, however, requires nice discrimination, and much experience to direct its application. Floyer observes, (and from his personal knowledge of this afflicting complaint, his remarks are well entitled to attention,) that bleeding will never cure the patient, although it may do much to alleviate the straightness and suffocative feeling of the chest. The young, too, he very justly says, derive more benefit from it than the old, who, he adds, "after some time become cachectic." This opinion seems tantamount to that of Cullen, who confesses that its employment cannot be continued without weakening the constitution, and sowing the seeds of dropsy.

Dr. Bree, who was led by too great an inclination to theorize into many errors of importance, states that of the four species into which he has divided asthma, there is only one—his second form—in which it is advisable; that, namely, which he regards as arising from irritation of aerial acrimony in the lungs. In his first species, which he considers as the result of irritation from

effused serum in the lungs ; in his third, that from irritation in the stomach, or some of the abdominal viscera ; and lastly, in his fourth—that dependant upon habit—he pronounces bleeding to be inadmissible.

Now, auscultation being unknown at the time he wrote, I do not exactly see how he could have discovered the effusion of serum, as an exciting cause, antecedent to the asthmatic fit ; the presence of serum, in several of the *post-mortem* examinations transcribed by the Doctor from other authors, indicates an œdematous state of the lungs, which may occasionally be co-existent with asthma, but is by no means its cause. Indeed, an œdematous state of the lungs, which both Doctors Baillie and Blackall consider of uncommon occurrence, is, on the contrary, very frequently seen on dissection. Scarcely an individual dies of chronic disease, with swelled extremities, whose lungs are not more, or less œdematous. I fear the first gentleman derived what he knew of morbid anatomy from inspecting the museum of his uncle, Dr. Hunter, rather than from observations made on the human body : a bad method for the greatest morbid anatomist, our country has produced, to pursue, but one well-calculated to induce his ignorance of that anas-

arcous condition so generally recognized by the practical pathologist.

With respect to Dr. Bree's third and fourth species, there can be no reason why recourse should not be had to bleeding, when the difficulty of breathing amounts to a suffocative state, when the patient is plethoric, or as a precautionary step against any evil to be apprehended to other parts from visceral hyperæmia or ; from any impediments offered by the severity of the paroxysm, to the circulation through the lungs. The state of the system, for which venesection is most likely to prove serviceable, is indicated by turgescence of the veins of the neck, attended by intense head-ach, coma, lividness of the lips, and of the eminences of the cheeks, nose, &c., by laborious action of the heart, and by respiration anxious, painful, and at times almost suspended.

Generally speaking, the wish of the patient, if he is an old asthmatic, and has consequently had experience as to the measures which afford him relief, is no unsafe guide on the question of bleeding, and ought to have due weight with the physician. And it should likewise be taken into the account, that depletion acts as an anti-spasmodic.

Dr. Bree has asserted, that in humid asthma

he never saw the paroxysm shortened an hour, but is convinced that delay to the expectoration, and more dyspnœa in the intermission, result from blood-letting; excepting the state just described is indicated, he is partly in the right, although his assertions are much too sweeping. In many instances of humid asthma, I have known infinite benefit arise through the abstraction of blood from the arm; and, indeed, in all the varieties of asthma local bleeding by leeches will frequently be productive of the happiest effects. If the patient is cachectic, suffering under abundant pituitous secretion, and his complaint approximates to well-marked peripneumonia notha (the disease so called, but imperfectly described by Sydenham,) or, what I may not be incorrect in terming bronchitis asthenica, then bleeding to any extent is undoubtedly improper. To local depletion, by means of leeches, in all pectoral complaints, I am decidedly favourable. In those cases, in which there is insufficient secretion, the discharge is forwarded by it; and when superabundant, the irritation, which excites the mucous glands, and exhalants, to excessive secretion, is soothed. Yet, I must subjoin as a precaution, that the experienced auscultator will never prescribe bleeding, either generally or locally, when



he discovers the existence of an cedematous state of the cellular membrane of the lungs ; which condition is not unfrequently met with in humid asthma, and sometimes occurs after a severe, and protracted paroxysm of dry asthma, in a habit previously debilitated. It may be taken as a general rule, that there is less danger to be apprehended from bleeding in the summer, than in the winter season.

A practice, which I have found attended with considerable success, is to apply leeches to the chest, a short time after the subsidence of a paroxysm ; or at any time in the intermission, slight dyspnœa still continuing. So long has been the intermission frequently procured by this easy plan, that I have had many patients, and amongst them some formerly under Dr. Bree's care, who, from the long respite they enjoyed, imagined themselves cured. The incorrectness of the statement I have seen with no slight astonishment put forth, in a recent medical work, that in the paroxysms of asthma bleeding with leeches is improper, may be estimated from what has gone before.

The blood taken from asthmatics occasionally exhibits the buffy crassamentum, indicative of inflammation ; and in the case of a noble lady, a

former patient of Dr. Bree's, to whom I was called in as she was labouring under a violent paroxysm, I found this inflammatory state evidenced, as I suspected it would be on depletion, in a remarkable degree. Whilst on this subject, I may notice, as a singular fact, hitherto, so far as my knowledge extends, unobserved, that when the lungs are very voluminous, as they commonly are in asthmatics of long standing, the patient seldom suffers from pleuritic attacks. The finest specimens we possess of lungs, untainted with pleurisy, have been taken from individuals, who come under this description : even in the case of consumptive patients, whose phthisical complaint has been cured by the supervention of asthma, if we except adhesion at the summits of the lungs, the result of pleurisy antecedent to this supervention, we rarely find evidences of its subsequent ingression.

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**MERCURIALS.**—There are few cases of asthma, of whatever species it may be, which, at times, will not be benefited by the exhibition of mercury, under some form or other. Mercurials may be truly said to possess a multitudinous power. If taken early, they moderate and abridge the severity of the fit ; and when employed in a later stage, they are powerful as-

sistants in removing the congestion, both pulmonary and abdominal, the never-failing consequence of an asthmatic attack. Where expectoration is deficient, they act on the whole glandular system of the lungs, removing likewise phlogistic infarctions, and any aqueous effusion in the lungs, or elsewhere.

The influential range embraced by mercurial preparations, will be readily understood, when it is considered that mercury operates at once both on the secerning, and the absorbing system. To the anatomist and physiologist, who are both aware of the state of congestion, and obstruction, in which a patient is left on the subsidence of an asthmatic paroxysm, the administration of mercury at this period will require no reasoning to support it. But for the guidance of the young practitioner, and the satisfaction of those asthmatics who may peruse the work, I deem it expedient to enter rather minutely into the ground-work of this practice.

In the first instance, mercury acts as a general stimulant, and exciting to the surface, tends to equalize the circulation all over the body; the deficiency of which is manifested by the coldness of the extremities, and other symptoms of inadequate circulatory powers. The organ, most sus-

ceptible of the influence of this mineral, is the liver. By its action on this viscus, it restores its secretions to a healthy state, relieving that congested condition, dependant on the obstruction resulting from an asthmatic attack. The healthy impression is extended to all the chylopoietic viscera, and, in fact, to every part influenced by the circulation through the liver; and thus the patient is freed from that train of nervous anxieties, and the irritable temperament, which the ancients seem to have constantly referred, with no little medical propriety, to the “splendida bilis.” This querulous and peevish condition of the asthmatic, while the fit is on him, has been already noticed.

It has been long observed, that after a fit the urine becomes somewhat scanty and high-coloured; but this is immediately altered on taking a little mercury, which, acting on the kidneys, operates as a diuretic. The congested condition of the kidneys, is referrible to that of the great venous trunks—the superior and inferior vena cava; and freedom given to the circulatory system in the one instance, will promote that of the other.

As we find, too, that the nervous asthma is generally accompanied towards the termina-

tion of an attack by a kind of crisis, when expectoration comes on ; the administration of mercury promotes the discharge of the secretion, and appears to afford relief to that congested state of the mucous membrane, whence the pituita arises. In general, when the fit is severe, I prescribe two grains of calomel, combined with a grain of ipecacuan, or squill, and order this to be repeated every hour, or every second, or third hour, until the patient has taken two or three doses, or even more, according to the emergency of the case. I have found this plan eminently successful in shortening the duration of the attack, abbreviating the period of convalescence, and placing the patient in a favorable condition for the abstraction of blood if necessary.

From what I have already stated of the action of mercurial agents, as stimulants, it may be inferred that they are also anti-spasmodics ; and in addition, as we have seen, they are likewise deobstruent. Their powers are, in fact, of a very wide description ; and judiciously employed in asthmatic cases, guarding especially against subjecting the patient to their too potential operation, there is no class of medicines of a more universally useful character. I would wish it to be distinctly understood, that they are not to be re-

sorted to on any trivial occasion ; and, in many cases, the milder forms, as the *pil-hydrargyri*, or *hydrargyrum cum cretâ*, may be preferably employed.

In one of the severest cases of convulsive asthma that ever came under my notice, occurring in the person of Lady ———, the wife of a general officer of noble rank, the most marked success was experienced from their prompt use. On being called in, I found her labouring under the influence of a paroxysm, which had continued for two days. From her excessive debility, bleeding was out of the question, and even the application of leeches seemed a dubious proceeding. I immediately prescribed a dose of calomel, to be repeated in the manner above described, and had bladders of warm water applied to the back, over the course of the sympathetic nerves. The result was the speediest recovery the lady had ever enjoyed.

It has been already mentioned, that it is a favorite practice with me to order the application of leeches on the incipient recovery of the patient, in order to remove every symptom of congestion ; and from similar views, I often prescribe a grain of calomel, morning and evening, to the amount of four or five doses. So beneficial has been

this course, that several patients have attributed their cure to its efficacy. The sooner the morbid condition is removed, and the return to health accelerated, the less likely is the disease to become habitual. When the cure is left for completion to the gradual interposition of nature, that asthmatic diathesis is confirmed, which a little vigour in the treatment would effectually preclude.

It is of the first importance, to attend to the effects left by the asthmatic paroxysm. Hence the soothing treatment, by means of leeches, and mercurials, which is advocated above. By removing speedily and effectually the slight dyspnoea, which an accurate observer will detect for some time after the subsidence of the fit, as well as that gastro-enteric hyperæmia, which always takes place, and by thus counteracting the disturbance of the digestive functions, the spasmodic character of the disease, if this plan be rigidly adhered to in the intermissions, will at length exhaust itself. It is only by thus watching, and timely checking whatever tends to create irritation, or congestion of the air-passages, before it has time to excite any undue susceptibility of external impressions, that the physician can hope to conquer the asthmatic habit. Nor is it the

least advantageous part of this treatment, that by thus early restoring the patient to a healthy physical state, the mind will participate in the soundness of function ; and the subduing of the morbid sensibility, to which the patient is prone in this form of asthma, is a point of essential consequence.

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**DIURETICS.**—From the earliest times the use of this class of medicines in asthma, has been warmly recommended by many medical writers. Passing over the opinions of the ancients, and coming to writings of modern date, we find Hoffman thus expressing himself: “ Diuretics are found very serviceable in that cachectic state, which is co-existent with asthma.”

On several occasions I have administered the following formula, with the view of exciting the kidneys, and, at the same time, of allaying irritability, with decided advantage.

R. Aquæ Cinnamomi ʒv; Infusi Digitalis ʒij; Potassæ Nitratis ʒi; Magnesiæ Calcî. gr. x; Syrupi Tolutani ʒiiss; Tinct. Scillæ m̄x ;—M. Fiat Haustus.

The first two doses may be taken with the interval of an hour between them; and the



dose may then be repeated every four, or six hours, until an evident abatement of the symptoms is manifested. In other instances, a prescription of the following nature may be employed, both as a diuretic, and a febrifuge. The mode and intervals of administering it, are similar to those of the foregoing recipe.

R Liq. Ammoniz Acetatis ʒss; Potassæ Carbonatis ʒiiss;  
Acidi Acetici Diluti, Q. S. ad Saturandum; Oxymel-  
lis Scillæ ʒiiss; Spirit. Æther Nitrici ʒss. M.  
Ft. Haustus Diureticus.

When the patient's habit is cachectic, and there is any reason to be apprehensive of hydropic symptoms, the Digitalis is especially to be recommended. It may be continued with advantage, but with caution, after the subsidence of the fit. I have found it agree best in asthma, with individuals of a delicate habit; and, as a corollary to this, I have observed it to be more consonant to female cases than to those of males. Withering, who introduced the use of Foxglove, as a diuretic, in 1775, appears to have made observations similar to mine with respect to its effects. He remarks, that its use seems most beneficial in constitutions, whose weakness is indicated, by

paleness of the countenance, lax state of the fibres, and a feeble intermitting pulse. Floyer states, that swelled legs, and a copious discharge of urine are beneficial changes in asthma. I agree with him as to the latter, but much doubt his accuracy in the former. In addition to the above remarks on the use of the digitalis, it should be borne in mind, that if, after the termination of a fit, an œdematous state of the lungs is observable, diuretics are especially indicated; and, in such cases, a small mustard cataplasm, applied on each side of the chest, will be productive of speedy absorption. As it will happen, in some cases, that one lung only will be œdematous, the experienced auscultator will, of course, apply the sinapism over that part of the thorax alone. Dr. Bree seems to regard digitalis as a medicine of very little efficacy: this opinion, it is not improbable, arose from his having employed it during the existence of some well-marked bronchial affection, or at some other unfavourable juncture. As he omits the form in which he prescribed it, it is not unreasonable to conclude, that he did not use the infusion; which is unquestionably the most diuretic pre-

paration under which the leaves of this plant can be exhibited.

Nitre, which is one of the ingredients of the first prescription I have given, is a diuretic of considerable utility, and appears to have been highly esteemed in former times. Avicenna observes, that nitre cleanses much, and is given in "a decoction of rue and dill." Many other diuretics might be enumerated; but as they differ merely in their greater or less power of promoting the urinary flux, I may conclude my observations on this description of medicines, in the words of Celsus: "*pro-sunt quaecunque urinam movent.*"

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NARCOTICS.—The discredit which has been thrown on this order of remedies, is not difficult to be accounted for. They have been used without discriminating the various species, and states of asthma. The young practitioner especially, arguing from the violent spasm, its frequent accompaniment, flies at once to agents, he believes so strongly indicated, and is often surprised to find the complaint irritated instead of

ameliorated. Were the pure asthma a common disease, no remedies would prove more beneficial; but asthma, being for the most part, a complicated disorder, and this too, with some tracheal or bronchial affection; narcotics will too often, in such instances, tend to inflame and excite rather than allay. Here, then, we can draw a line of distinction, which will prove a safe guide in practice. It is indeed very difficult to meet with junctures, favourable to their exhibition; and, I have little doubt, many medical men may pass through the better part of their lives, and practice, without meeting with half-a-dozen such.

At the beginning of the complaint, when it first manifests itself, before any violent paroxysm occurs, or any turgescient state of the mucous membrane, narcotics, judiciously exhibited, might be productive of much advantage; but, at this early stage, the physician has seldom the opportunity of acting. In cases of longer standing, too, I am inclined to believe, that there are some rare occasions, on which they might be employed with benefit; however, the old asthmatic, if they are likely to prove serviceable, will be aware, from his own feelings, when and how to resort to them. Still, both patient

and physician cannot be over cautious in recurring to them; and, generally speaking, in every catarrhal complication of asthma, their use cannot be too strongly reprobated.

I think it necessary to add, that previously to their exhibition, it is essential to lessen whatever venous congestion may exist, and then to have recourse to these auxiliaries for that strangling constriction of the chest, whose usual consecutive is congestion; and, as I believe narcotics to be directly sedative, I would have the dose, when they are given, proportioned accordingly. I need hardly point out, that the agent to be employed for the abatement of congestion, is venesection, to the extent of from six to eight ounces.

Dr. Forbes, of Edinburgh, first, I believe, introduced the practice of administering the acetate of lead, in convulsive cough, in a treatise, "*de tussi convulsiva*," published by him, in 1743; and, I have found it very efficacious, when combined with acetate of morphine, in the following proportion: three grains of acetate of lead, with a quarter of a grain of acetate of morphine, conveyed in an ounce of distilled water, with some simple syrup. In some instances, I have administered from one to two

minims of hydrocyanic acid, in an ounce of almond emulsion. Each of these forms of medicine, may be repeated at intervals of a quarter or half-an-hour, to the extent of two or three doses ; or, if it is found necessary to repeat them more frequently, the periods between each dose should be considerably lengthened. Besides these, the other narcotics in general use, in asthma, are various preparations of opium, hyoscyamus, belladonna, aconitum napellus, cicuta, colchicum, lobelia inflata, stramonium, &c.

With respect to the use of narcotics, Lennec has started a theory, which, to say the least of it, is highly ingenious. He supposes that narcotics lessen the necessity of respiration, and that by thus ~~assimilating~~ assimilating the condition of the patient to that of hybernating animals, which, when torpid, consume a hundred times less air, than when in a state of activity, these medicines afford relief and freedom from dyspnoea. He strengthens this supposition by the fact, that during sleep, asthmatics enjoy cessation from the feeling of oppression. Without entering into the merits of this theory, I may subjoin that I conceive narcotics to act on the sensorium, diminishing its sensi-

bility, and thus extending their influence to the whole nervous system.

The last of this species of medicines, which I have enumerated, deserves a separate notice from the celebrity it once obtained. Like most other medicines, possessing any active power, stramonium was lauded to the skies when first introduced, and has now fallen into disuse and neglect, equally as undeserved as the exaggerated praises it once received. Previously to any trials of its virtues in asthma, it had been introduced by Stoerk as a remedy in convulsive affections, epilepsy, mania, &c.; and as has been the case with its agency in asthma, some physicians found it successful, and others the contrary. Indeed, in all complaints, which branch into a variety of species, and stages, this must ever happen.

No single medicine will meet every fluctuation, and differing state of the same disease; and supposing every symptom of the disorder, in any two individuals, to be precisely similar, yet, a difference of constitution will cause the same remedy, and the same form of the remedy, to produce different results.

The business of the physician is, to distinguish the modification which one, and the same com-

plaint will exhibit ; and, to ascribe no inherent power to any medicine of operating uniformly in every case. A little attention to these distinctions, would tend to remove that contrariety of opinion, which medical writers display on the subject of narcotics in this disease.

Willis long ago pointed out a distinction of primary importance in their employment ; that, in fact, unless contra-indicated by pulmonary infarction, and great oppression in the region of the præcordia, opiates are sometimes of signal service ; and a little further he reiterates this caution in forcible terms, observing, that they must be administered with the greatest care, since they impede the respiration, which is already oppressed, and will at all times endanger life.

Taking this caution as a clue by which to guide his practice, the physician will walk safely through the labyrinth of conflicting testimonies, whether relating to stramonium, or any other remedy of the class. Had the conclusions to be drawn from the plain and sensible distinction of Willis been attended to ; and the inferences, to be extended from it through the various branches of medical science, been carefully drawn—the, “ who shall decide, when doctors disagree,” would hardly be



as applicable now, (and it certainly is so,) as in the days of Pope.

As I am on the subject of stramonium, I may as well refer to it for a fuller illustration of my meaning. Supposing three patients to be similarly affected with asthma, of the same species, under the same stage of the paroxysm, the results may be different in all three, from their mode of smoking alone. One may eject the smoke, another swallow it, and the third retain both smoke and saliva. The effects on the three, putting every other distinction, as that of constitution, or age, out of the question, will, it is probable, be diametrically opposed, and a different character be awarded to the inoffending herb accordingly.

As far as my experience goes, the use of opiates should be, for the most part, confined to those cases, in which the intermissions are of some length; and I have found them useful when given on the approach of the fit, in young asthmatics especially. When judiciously varied, and adapted to the peculiar circumstances of the case, and idiosyncrasies of the patient, they may at times be administered with a good effect.

What I have just said of opiates in general,

may be applied to stramonium in particular. The duration of the disease, that is, whether the patient be a young or old asthmatic, his constitution, the species of asthma, and the precise stage of that species, together with the mode of administration, will make the stramonium a medicine of great, or of no efficacy. Whatever promotes expectoration, will, of course, forward the solution of an asthmatic fit, and so far stramonium may be said to possess no greater virtue than tobacco; but, superadded to this, its narcotic powers are greater. It tends, when inhaled like its associate the "fragrant weed," or, in plain language, when smoked, to bring about that grateful forgetfulness of care, and balmy oblivion of the world, to which the inveterate smoker flies as a refuge from trouble; or excites that calm and meditative turn of thought, which the studious of former days were accustomed to seek through the medium of the pipe.

Independently of these effects, I am induced to believe that the slight degree of nausea it is apt to superinduce, is often beneficial; and its mode of action, in accelerating expectoration, is not improbably, by continuous sympathy, conveyed from the salivary glands of the mouth, and the small glands of the mucous membrane of the same

part, to the bronchial tubes. The vertigo, too, as well as the drowsiness, often felt after its use, indicate its power over the nervous system.

Dr. Bree has given an account of a trial he made on himself of the effects of opium, which countenances what I have already advanced respecting the necessity of attending to the distinctions laid down by Willis, and the inferences to be drawn from them. The doctor states, that he took four grains of solid opium, in the access of a paroxysm of his first species ; namely, that which he makes to arise from the irritation of effused serum. The consequences were what might have been expected, increased exacerbation, and every symptom exasperated. Had he paid more attention to the precise state of his case, examined its nature, and reflected, that there could be no effusion of serum present, without an affection of the mucous membrane of the bronchi, he would have been spared all the trouble and pain of experimenting to discover results, which a little exercise of his reason might have foretold him.

From the detail he gives of the effects of the opium, and from the account he has penned of his own case, I am inclined to believe, that he laboured under a pituitous catarrh. It is not at all improbable, from the dyspeptic symptoms he

mentions, and coupling these with the affection of the chest, which he seems to have had subsequently, that he laboured originally under latent phthisis, of which the indigestion was a secondary symptom. Auscultation being then unknown, such a conclusion seems perfectly warrantable. As a case in point, I may mention, that some years ago, the nephew of a well-known judge waited upon me, to ask my opinion respecting a convulsive asthma from which he was a grievous sufferer ; and, above all, desirous to ascertain what he might substitute, during the paroxysm, for the quantity of brandy, often times amounting to above a quart, he was, in the course of an hour, in the habit of taking to lull the spasm. His earlier symptoms, on enquiry, were very similar to those described by Dr. Bree ; and he particularly stated that the complaint had its origin in dyspepsia. On exploration of the chest, I discovered the existence of a cavity in the summit of the right lung. Many instances of a like nature have occurred to me ; and, had Dr. Bree delineated the early stages of his disorder, as distinctly as the latter, I have no doubt it would be found, that his asthma supervened upon latent consumption. Thus he gives no account of the symptoms preceding dys-

pepsia, which would have indicated, at once, the origin of his complaint. But, it is evident that some ailment of the chest was early at work, from his alluding to pain of the intercostal muscles, which could hardly have existed without ; or, the reverse might have happened, and the dyspepsia impairing his health, have thus indirectly originated the pulmonary affection.

Some remarks of Laennec coincide wonderfully with this view of the case. He observes, "that nervous symptoms may mask phthisis for a long period ; and that he has known it concealed for years by habitual dyspepsia, and other symptoms of hypochondria."

This, in fact, is giving in other words the commencement of Dr. Bree's case, as stated by himself. So strongly, indeed, am I convinced that one or other of these explanations will apply to the learned Doctor's case, and elucidate what has been omitted by him, that, could he be induced to summon up his recollections, and retrace minutely the precursory symptoms of his disease, it would, I have little doubt, appear that either before, or during his dyspeptic condition, he had had attacks, slight ones perhaps, of hæmoptysis. However, for an author to retrace his steps, cross-

examine himself, and confess his views to be erroneous, would be an effort of candour above the powers of poor humanity!

I would not be supposed to insinuate, that any thing was purposely omitted by him. On the contrary, I believe he has detailed, and fully too, every symptom he conceived to be of importance; and that, supposing he had laboured under slight spitting of blood, he would have deemed it too irrelevant for notice. The course, therefore, of his complaint, on the supposition of the correctness of the views above taken, would be that on the appearance of the dry form of asthma, which did not exhibit itself for several years after the first manifestation of dyspnoea, his lungs became emphysematous, and the cavity, which I conjecture to have previously existed, was gradually healed up. The care he appears subsequently to have taken of himself put a stop to the bronchial affection, and with it of the asthma, which at one period seems to have been habitual with him.

Heberden observes, and it is strictly applicable to the case under consideration, "Some few constitutions have, of themselves, either outgrown, or assisted by some judicious method of cure, have entirely conquered the asthma."

**ANTI-SPASMODICS.**—Sulphuric æther, as well as the compound sulphuric æther, known as the anodyne mixture of Hoffman, although both narcotics, yet since their anti-spasmodic properties are more distinctly marked, are, perhaps, more in place under the present class of medicines, than under that of the former.

A fluid drachm of either of these substances may be given in some camphor mixture, or liquor ammoniæ acetatis, in conjunction with a small quantity of syrup of poppies; and this draught may be repeated two or three times, at short intervals. During the presence of a fit, if it could be administered with convenience to the patient, an enema containing assafoetida, or spirits of turpentine, may be used with no inconsiderable benefit.

Having, on several occasions, witnessed the powerful effects produced by musk, I have at times ordered it in very violent paroxysms, and have seldom seen it fail of mitigating their severity. An advantageous form of exhibition is a dose of from twenty to thirty grains, suspended in half an ounce of mucilage of acacia, added to double this quantity of infusion of valerian. This may be repeated with the interval of an hour. It is to be regretted, that this drug bears so high a price as to subject it to adulteration; since I coincide

with the opinion expressed by Dr. Cullen, that it is one of the most powerful anti-spasmodics hitherto known.

The general rules I have laid down for the use of narcotics, may be taken as the expression of my opinion on the employment of anti-spasmodics also. They assimilate so much in their nature, that the practice in the one, may be safely followed in the other. I have pointed out the necessity of great caution, and discrimination, in having recourse to them ; and have indicated the stages wherein they will be found most beneficial. It may not, however, be uninteresting to hear what Sir John Floyer says of them, in the quaint phraseology of his time. There is much good sense in his observations, which are tinged, of course, with the exploded doctrines of the medical school of the day. "If castor, amber, assafoetida, volatile salts, or sulphurs, be taken inwardly ; they rarefy the spirits, raise the effervescence, and drive the windy spirits into the nerves, whereby the strangulation is increased, by which experience I find, &c." Taken as a caution the above is useful ; but experience, since his time, has proved in this capricious disease, that there are cases in which anti-spasmodics will relieve as much, as in others, they will increase the oppression.



I have mentioned a variety of these medicines, since, from difference of constitution, and other causes, if one prove ineffectual, another may perhaps succeed. A medicine that will stimulate the nerves of one individual, may very possibly calm and soothe the nervous system of another.

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EXPECTORANTS. — In accordance with his theory, Dr. Bree has enlarged upon the use of this form of medicine in the paroxysm; but since, independently of other reasons, auscultation utterly refutes his doctrines, I shall reserve entering into any detail, respecting expectorants, until I come to speak of the treatment to be observed during the periods of intermission. Indeed, many of the remedies, on which I have already dilated, may be regarded as partaking of the powers of this class of medicines. Whatever will remove the paroxysm, of course appears conducive to expectoration, since the shorter the time of its continuance, the sooner will the discharge come on: although its quantity will be inconsiderable, compared with that expectorated after a fit of long duration.

The expectoration should be a secondary consideration with the physician, whose whole atten-

tion should be directed to the speedy termination of the attack. Attempts injudiciously made during the presence of the paroxysm to promote the secretion, would be likely to cause such irritation of the bronchial mucous membrane as to superinduce a catarrh, and eventually accelerate a recurrence of the asthmatic state.

Again, I much doubt whether benefit has ever been derived during a fit from expectorants, administered as such ; being inclined to believe, that in all cases of idiopathic asthma, in which their use has been followed by good effects, these have resulted from their indirect influence in other ways, rather than from any direct operation in accordance with their name. For instance, I very frequently order the following compound during an asthmatic fit : of calomel, ipecacuan, powdered squill, and precipitated sulphuret of antimony, of each a grain, to be made into a pill, which may be repeated at intervals of half an hour, until the patient has taken three or four doses ; and this, not with the view of increasing the expectoration, from the mitigating effects produced on the chest, but on account of its general results. This compound determines to the surface, gently affects the bowels, increases the secretion of the kidneys, excites incipient nausea,

and by these, and other modes of acting, tends to remove the thoracic obstruction.

Another form I am in the habit of employing, and which I sometimes alternate with the pills I have just mentioned, is the following. An ounce of either camphor mixture, or almond emulsion, fifteen grains of nitre, ten of calcined magnesia, ten minims of tincture of squill, and twenty of henbane ; in addition to which I occasionally order some agreeable syrup. At times, I administer it alone, with intervals of an hour or two, until the dose has been twice or thrice repeated. Squills appear to have been regarded by Floyer in a very high light; and he gives an amusing description from Galen, of the various excellent qualities of the vinegar of squills. "It makes the senses quick, the colour good, and the respiration easy ; it helps digestion, it loosens the belly, it provokes urine, discusses wind, and abates the fulness of flesh." To the use of this wondrous medicine, Galen seems to ascribe the longevity of Pythagoras, whom he states to have been its inventor, and who lived to the age of 117. Floyer adds, out of the same author, a formula for the wine of squills, which, combined with honey, he affirms that the Roman emperors were in the habit of taking, to prolong their lives.

If any reader should wish to try the effects of this "elixir vitæ," which at all events will not shorten, however dubious its power of extending existence may be, its composition is as follows : ℞ij of wine to one of squill ; honey, two or three parts to be added, to make it acceptable. The dose was ʒi before meat, and half the quantity after, which Floyer observes, is too much. The great difficulty would be in procuring the antique wine ; but, perhaps, Madeira or Sherry might prove no inefficient substitute. Since vinegar has been mentioned, I may add, that a table-spoonful of raspberry vinegar in half a pint of water, will be found both grateful and serviceable, when there is a feeling of heat in the stomach, and more especially to persons of full habit.

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**LAXATIVES.**—Asthmatics of some standing are, generally speaking, subject to rather a relaxed state of the bowels than otherwise. Should there be a degree of torpidity in the bowels, it will be necessary to relieve this gently ; and if the fit appears directly after a meal, accompanied by symptoms of dyspepsia, the purgation ought to be so active as to remove the offending substance. Patients who have but newly begun to suffer from

asthma, are, contrary to the received opinion, inclined to constipation; and any continuance of this state is carefully to be guarded against. Should the asthmatic eat too plentifully soon after the abatement of the fit, before the digestive apparatus have time to recover its functional power, it is probable that some indigested aliment will remain to irritate the stomach and duodenum, and if unremoved it will be likely to accelerate a second attack. Should an emetic be unadvisable, recourse should in such case immediately be had to some laxative, and this is the practice I usually prefer. Whenever laxatives are indicated, it should be remembered that those are best suited to the asthmatic patient, which will gently and steadily excite the peristaltic motion; and that violent purging should never be resorted to. An excellent form will be found to be of jalap, rhubarb, and magnesia, eight, or ten grains each, taken in some suitable vehicle; and its repetition may take place if necessary, after the space of two or three hours. Should there be any symptoms of a pyrexial state, five or six grains of the hydrargyrum cum creta, may be added to the foregoing compound. Another mild aperient may be formed as follows: half an ounce of the compound decoction of aloes, and the same quantity of

infusion of senna, to which two or three drachms of manna may be added. In a few cases in which I have found the alvine obstruction obstinate, and resisting the milder purgative medicine, I have ordered, and with excellent effect, half a drop to a drop of croton oil in some gruel. When on being called in during a paroxysm, I find that the bowels have been for some two or three days painfully confined, I invariably recur to this medicine, and there is no agent in the *Materia Medica* on which, in similar instances, I place greater reliance. Besides being an efficient and certain laxative, its high anti-spasmodic powers are remarkable; and I was first led to pay particular attention to this property of the croton oil in the case of a gentleman, (then occupying his country residence at Fulham) whom I attended, in conjunction with Sir Astley Cooper, and Mr. Lawrence.

In consequence of his horse's stumbling, the patient had fallen and fractured one of the nasal bones, a portion of which afterwards came away from the lacerated wound. A few days subsequently tetanus of the severest description occurred, in which complete opisthotonos, and pleurothotonos were manifested. So long as the complaint lasted he took croton oil as a purgative;

and I constantly observed, that its exhibition was followed by an extraordinary abatement of the fearfully spasmodic state under which he laboured. On a careful reconsideration of this gentleman's case, I was led to attribute his recovery to the use of this substance chiefly, notwithstanding many other remedies were of course employed. Impressed with this conviction of its beneficial effects, and particularly of its well-marked anti-spasmodic powers, I have eagerly embraced every opportunity of testing them since, and never once had occasion to regret my reliance on their efficacy.

Having previously noticed some substances as anti-spasmodics to be administered in the form of an enema, which are likewise laxatives, I need not recapitulate them ; but content myself with referring to what has been already said.

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**GALVANISM.**—The discordant opinions of medical writers are more strongly exhibited on few topics, than on the advantages derivable from the use of galvanism. It is certainly strange to find the results obtained by practitioners, so diametrically opposed as they are on this point. How far it may be creditable is another question, which

would involve too long a discussion to admit of its being canvassed in this place.

The employment of electricity, much advocated by Sigaud de Lafond, fell not long after his time into disuse; but some recent experimentalists have revived it, more particularly under the galvanic form. A modern writer, Dr. Wilson Philip, in his "Inquiry into the Laws of the Vital Functions," has affirmed that in no less than twenty-two cases of dyspnoea, he gave decided relief by transmitting the galvanic influence from the nape of the neck to the pit of the stomach. For my own part, I have tried galvanism to great extent, and with the utmost patience. Both at the Infirmary for Diseases of the Chest, and at the Central Infirmary, I have made repeated experiments in the presence of numerous pupils, and of medical practitioners likewise; and out of numerous cases, there were only two in which any benefit was obtained from its use.

In the case of an asthmatic patient, a man of middle age, who was under the influence of *bulimia*, or voracious appetite, to such a degree, as to threaten a famine within the walls of the Infirmary, I resorted to galvanism as a *pis aller*, a last effort against the inroads made by this Nimrod of the kitchen; and found it fortunately



stop the maw of this second Justice Greedy, although the asthma was not one whit the better.

The other case was that of a young lady, a private patient, subject to hysteria and occasional dyspnoea, and whose appetite at times failed, and at last wholly deserted her for upwards of three weeks; whilst, at the same time, her stomach exhibited great irritability. After a trial of galvanism, for no long period, fresh energy seemed to be imparted to the digestive organs, and her appetite was restored to a healthy state.

One highly interesting case, in which I gave galvanism the fairest and fullest trial in my power, was in the person of a female, aged thirty, in whom nervous asthma had supervened upon one of the most singular convulsive maladies I ever witnessed. The poor woman would be suddenly seized with a trembling of the arms and limbs, extending by degrees to the whole of the body, and she would then sink on the floor racked in every joint and muscle with convulsion. After a time, the arms and limbs would become more and more violently agitated, being lifted up and down with singular rapidity and force, whilst at intervals the body would be fairly lifted, writhing, off the ground. During these attacks, her face was pinched and contracted, her lips

bloodless and constricted, her extremities deadly cold, and her stomach, as she stated, felt as if a lump of ice. The origin of this malady, according to her own supposition, was owing to the premature termination of the lochial discharge two days after the delivery of her third child. Mr. Bowden, at that time my talented colleague, being surgeon to the Infirmary, and who was also Secretary to the Medical Society of St. Bartholomew's Hospital, took, along with myself, the deepest interest in this strange case, and both witnessed and participated in the whole of the galvanic experiments resorted to, during the presence of the asthmatic attacks, I am sorry to add, fruitlessly.

Thus, the reader will perceive, that the whole of my experience, which has, I believe, extended to a wider field than has fallen to the lot of many, leads me to conclusions entirely different from those of Dr. W. Philip. I did not confine the trials I made of galvanic influence to the idiopathic form, but extended them through various symptomatic species, and with results, which have convinced me that its medicinal agency has been overrated.

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MOXAS.—I am not aware that any preceding

writer has recommended the use of the *Artemisia Chinensis*, or Moxa in the nervous asthma. The actual cautery was a favorite remedy with the ancients, both for this disease and phthisis; and Hippocrates and Celsus each recommended in the latter the application of the red hot iron to a horrible extent. *Ætius*, indeed, went so far as to order fourteen ulcers to be made, and kept open, between the head and the diaphragm; and fearful instances of this cruel practice are not wanting even in modern times.

Since the employment of the moxa is productive of hardly any pain, as compared with the cautery, and its intent and result are nearly the same, I have had recourse to it in idiopathic asthma, and this with no slight success. The most favorable situations for its application, are over the course of the cervical and thoracic ganglia. Four or five moxas made of cotton, of the size of a pea, moistened with oil of turpentine, and applied in rotation, are likely, when the patient can "screw his courage to the sticking place," to effect a speedy resolution of the paroxysm. They should be kept on fire until the sensation amounts to absolute pain, and then may be lightly removed by a filip of the finger.

The position, which I have before noticed, as

chiefly indulged in by the asthmatic patient, that of inclining forwards, is also highly favourable to their application on the dorsal region. It is likewise not improbable that, before well applied, the effects of imagination will produce as beneficial a result as the operation itself.

In two cases especially I experienced the happiest effects from the use of the moxa ; and in one of them, a periodic asthma, I am convinced that the return of the paroxysm was considerably protracted by the nervous apprehension of the operation which the patient, a young person, had conceived. So strong is the affinity between all diseases originating in the nerves, that I have known a young female of delicate organization, and, consequently, high susceptibility of receiving impressions, contract asthma by simulation ; as is known to have now and then happened in hysteria, chorea Sancti Viti, or St. Vitus's dance, and other disorders of similar nature. Perhaps the best remedy in such case, is that recommended by a Dutch Professor, who finding hysteric complaints accumulate in the female wards of his hospital to an unbearable degree, ordered a searing iron to be kept always heated as an infallible application ; and hysteria, in all its forms, vanished forthwith.

Whilst on this subject I may mention, that a lady of rank, whose nervous sensibility is of the

acutest description, and who is likewise asthmatic, informed me, that she had been much troubled some years ago with a pain in the right side, situated, I should conclude from her account in the ascending portion of the colon, and, that it was successfully removed on the first application of a moxa, ordered by Mr. Crampton, the present Surgeon-General of Ireland. Should I be called in to this lady, whilst she is suffering under a fit of asthma, the above fact would induce me at once to order moxas to be applied over some of the superior thoracic ganglions, with every hope of diverting any concatenation of morbid sympathy that might be present.

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**ERGOT OF RYE, OR, SECALE CORNUTUM.**—This is a substance that, I believe, has never been tried but by myself in asthma, and to whose employment I was led by reasoning from analogy. Since mercury, although a stimulant, is often used in case of inflammatory action, diuretics when the secretion of the kidneys is superabundant, diaphoretics in cases of excessive perspiration, it struck me that ergot of rye, which I have found eminently serviceable in various conditions of the uterus, might prove beneficial in asthmatic cases, where a morbid sympathy might be expected to

exist betwixt this organ, and the chest. The principle of its use is, in fact, the opposite one to the old medical axiom, "*contraria contrariis medentur.*"

Induced by the above considerations, I was led to make trial of this substance in female asthmatics, (not in a pregnant condition,) and from their result, I would recommend further trials to be made. The form of its administration is various; ten or fifteen grains in powder may be taken a second time, with an hour's interval after the first dose; or an infusion of thirty grains in warm water at once. Sometimes the tincture may prove a more agreeable vehicle, as in cases of debility, or irritability of the stomach. Indeed, it seems unlikely, that the action of the ergot of rye should be chiefly confined to the removal of that morbid dilatation of the uterus often remaining after delivery, and, yet, should not be applicable to an analogous condition of the heart, or of the lungs. Thus in nervous asthma it may restore the air cells, unduly expanded, to their natural state, by removing the spasm which counteracts their collapse. Although I have not used it to so great an extent as to warrant my pronouncing definitively upon its powers; yet, I am fully persuaded, that by its stimulating properties it

exerts an efficacious action in some forms of unnatural dilatation.

**PNEUMATIC AGENTS.**—Various gases have been strongly recommended; and their use has been more particularly advocated by Dr. Beddoes. Of these, the nitric oxyde gas, otherwise known by the name of the laughing gas, is likely to prove the most serviceable.

Although I place little reliance on the mere inhaling of these, or any aeriform bodies, yet when asthma has supervened upon consumption, the mechanical action of inhalation, as explained in my treatise on this last named malady, will, by aiding the curative process already begun by nature, be productive of decided benefit. It will accelerate, and establish that voluminous state of the lungs, which her kindly interposition may be too tedious in effecting; and thus prevent all danger of the patient's relapsing into his previous phthisical condition. The same may be observed of the catarrhal state, no less than the asthmatic; for although the lungs are more rapidly enlarged by the former, than the latter, the one operating constantly, the other *per saltum*, inhalation is still serviceable as expediting the process.

Much stress has been laid upon the imperfect oxygenation of the blood, as the cause of asthma. Were this the case, the simple respiration of oxygen would prove a certain and speedy remedy. The truth is, that the blood is imperfectly oxygenized for the same reason that the respiration is impeded; namely, a congested condition, or convulsive action, of some of the air-passages. The obstruction once removed, the breathing returns to its natural state, and we find no signs of deficiency in the oxygenation.

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**DIET AND GENERAL TREATMENT.**—Floyer remarks, and experience in his own person dictated the language—"The asthmatics are best fasting, and under a very frugal and simple diet." In fact, experience and reason, here, go hand in hand.

Of all articles of diet, coffee is that which has obtained the greatest reputation, as possessing medicinal powers, in addition to its nourishing qualities. We have the united testimonies of Sir John Pringle and Dr. Musgrave, to the fact of Floyer's having derived great benefit from its use, notwithstanding his reiterated assertion in his "Treatise," that every hot aliment is to be



avoided. The former gentleman, however, was the first to introduce it into general practice, affirming it to be the best abater of the paroxysms of the asthma, with which he was acquainted. Dr. Bree likewise recommends it; and, undoubtedly, it forms a grateful aliment, which may often soothe and refresh, if it does not positively check the paroxysm. As a general rule, the food should be light and nourishing, whilst all stimulants should be carefully avoided. The ordinary drink may be lemonade, or ginger tea; and when coffee is taken medicinally, it should be drunk without milk or sugar, being made very strong in the proportion of an ounce to a cup.

There are many minor remedies which will contribute essentially to the ease, and comfort of the patient during the paroxysm. Bathing the feet, spunging the chest with warm water and vinegar, and using gentle friction to the same part, are all palliatives which should be sedulously attended to. The position, in which the asthmatic is placed, is also of considerable importance. He should be directed to sit in an arm-chair, leaning forward, or with his head inclining on a table, or the back of a chair. His apartment should be well ventilated, and no obstacle be allowed to the free admission of air. Perfect quietude in the

house, and freedom from any annoyance of unnecessary visitors, or from business which can be deferred; in short, exemption from anything mental, or physical, likely to irritate the nerves, are all considerations of no small magnitude in the treatment of the asthmatic.

I would suggest that in cases of purely convulsive asthma, a change of air, as for instance, from the air of the city to that of the country, or, *vice versa*, might be attended with speedy relief, when the severity of the attack, or the means of the patient, did not preclude such a removal. So various, and almost imperceptible, are the modifications of this disease, that it is hardly possible to enumerate too many auxiliaries; since, although they should by no means be used indiscriminately, and with little interval between each, yet, as even those found to agree the best will in time lose their effect, it is advisable to possess a knowledge of what others may be resorted to. That I have not spoken of tonics is owing to my belief, that in this species of asthma, they are decidedly prejudicial.

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**TREATMENT IN THE INTERMISSION.**—It cannot be too strongly inculcated, that on the “*ratio medendi*,” pursued in the intermission, or interval

between the fits, the cure of the patient chiefly depends. The intelligence of the practitioner, and compliant observance of the asthmatic, are then equally called for; and each is then alike inefficient without the other. Even in inveterate cases, in which a cure is not to be hoped, the return of the paroxysms may, by judicious treatment, be indefinitely deferred; and to defer the hour of suffering cannot but be considered as worthy every effort.

The main points to be attended to, are the age and the constitution of the patient—the specific character of his disease as complicated, or uncomplicated—and its remote as well as exciting causes. By these considerations must the treatment be regulated; and, by a nice adaptment of the remedies to these various conditions, the asthma, intractable as it is generally supposed to be, will be found to be powerfully swayed. Should the complications of the disorder be distinctly marked, it is necessary to attend to them in the first instance; and they may be treated, generally speaking, in the same manner as if no asthma co-existed with them. But, when the peculiarities appear entirely subordinate to the primary complaint, the treatment may be pursued uninfluenced by any reference to the minor, and unimportant variety.

No sooner has the fit run its course, than prospective measures should be resorted to. The beginning of the intermission ought to be at once seized, in order to lay the foundation of a future cure.

I have already observed, that when the fit is present, the chief object the physician should have in view is, to abridge its duration by every means within his power; not so much with the confined aim of relieving the mere immediate suffering, as with the more enlarged purpose of preventing the disorder from becoming habitual. And following up this by a similar practice, it is incumbent on the practitioner, after the attack has fairly subsided, to relieve the patient as soon as possible from any residual effects of the disease. It is, however, requisite to allow sufficient time for the disappearance of the symptoms, which are the sequelæ of the attack.

To expect that any sudden change can take place from the violence of the paroxysm, to a state of complete ease, would be to look for impossibilities. For many hours after the subsidence of the more urgent symptoms, the breathing will continue affected; and the patient will be sensibly reminded, that he is not yet "on a bed of roses." In a word, comparative ease must not be mistaken

for complete restoration. In general, if I find these secondary symptoms continue for a day and night, I then order leeches to be applied to the chest, with a view of diminishing its irritability, as well as of removing any engorgement that may happen to exist. In those cases in which either the previous experience of the patient, or those signs, which the practitioner acquainted with the disease will easily recognize, threaten a speedy return of the paroxysm, the use of leeches is especially indicated; and their prompt application will often prevent the recurrence of the attack. It will sometimes occur, that the attacks will manifest themselves, almost without intermission, for two or three days and nights; and the subsidence of one will be, as it were, the signal for the appearance of another. The necessity of mitigating the irritation, approaching to the inflammatory condition, is here obvious; and, I may observe, that the good effects of judicious local depletion, have not, as yet, been sufficiently recognized by the medical world.

There are many reasons which render the local abstraction of blood, in the majority of instances, not merely a safe, but a highly beneficial remedy. In asthmatic cases, the leech will be found to act in a double capacity, that is, both externally and

internally. It relieves the muscles of the chest, strained, sore, and painful from the constant exertion caused by the dyspnoea ; and soothes, by sympathy, the undue excitement of the lungs. It has been frivolously objected, that where no direct communication, by means of nerves, blood-vessels, and absorbents, takes place between the internal organ and the exterior covering, no good can arise from the employment of leeches ; although daily, nay hourly, experience refutes the assertion. We know that intense head-aches, and inflammation of the brain, often yield to the salutary influence of this little animal ; and, yet, in addition to the bony tables of the skull with their diploë, there is the duplicature of the serous membrane between the scalp, where the leech is applied, and the brain. Similar exemplifications will be found in some cases of diseased joints, or of affections of the testes ; in both of which the chief relief afforded must be by sympathy.

Again, should inflammation exist in the abdominal cavity, although two surfaces intervene betwixt the viscera, and integuments of the abdomen, the effects of sympathy are at once observable on the application of leeches. It cannot, indeed, be denied, on any tenable pathological grounds, that abstraction of blood from a

healthy surface over a diseased part, (notwithstanding there exists no direct connection between the two,) will, in general, relieve the latter. Thus the lungs are no farther removed from the remedial agency of the leech than the brain, or the peritoneal cavity. Between the exterior surface and the lungs, there intervene the ribs, with their intercostal muscles, and their serous lining, together with the flexure of this last membrane; and yet relief follows, in spite of whatever may be fancifully urged, I cannot say reasoned, to prove that it should not.

On account of the sitting and upright position which the asthmatic is usually obliged to assume, there is ordinarily a somewhat congested state of the lower lobes of the lungs, arising from the gravitation of the blood; and for this, and other reasons, I generally order the leeches to be applied near the mammæ, over the seventh and eighth ribs. Applied here, they, in the first place, tend to give relief to the inferior origins of the pectoral muscles, to some of the digitations of the great serratus muscle, to that portion of the intercostal muscles of the ribs over which they are fixed, to the muscular substance of the heart, to the diaphragm, with the viscera immediately beneath it, and to the upper portions of the

abdominal muscles which may have suffered from the spasmodic state of the chest.

These are not the only parts which come within the range of the influence, exerted by the local abstraction of blood; since the application of leeches possesses a deep-seated, penetrating power, and there is a radiating sympathy which extends in various directions from the place of election.

Beddoes was of opinion, that the effects of a blister extended to a foot in depth; and although those of the leech are much limited, in comparison with this, yet they may be said to reach almost that extent in circumference, taking the place of their application as the centre whence the circle is described.

In not a few instances of convulsive asthma I have observed, at the termination of the attack, a catarrhal state, chiefly of the trachea, although no catarrh was discoverable previously to the fit. I am in the habit, in such cases, as soon as there are a mucous rattle, and a sense of straightness in this part, to order leeches to be applied to the upper portion of the sternum; and this practice, judiciously followed up, after every attack in young patients, will be found effectually to prevent the disease's becoming habitual. Should



the removal of the catarrh be neglected, as merely the effect of the paroxysm, and on the supposition that it will soon pass away, it may, in time, become a cause, and finally render the disorder habitual. Nothing, indeed, can be fraught with worse consequences to the patient, than the suffering of any secondary symptoms to be converted by neglect into primary ones. Should the catarrh be allowed to remain unchecked, the subacute excitement of the mucous membrane will gain ground, the balance of the secretions of the mucous glands be destroyed by the undue determination which takes place towards the trachea, and the disease rapidly degenerate into a chronic character.

It sometimes happens, although not commonly, that inflammation of the chest will manifest itself at the close of a severe asthmatic attack; and then leeches alone will not be sufficient. Abstraction of blood from the arm is likewise to be resorted to, and indeed, cannot, with propriety, be omitted. It is a circumstance often to be regretted in this disease, and one which not infrequently occasions the worst results, that the comparative ease enjoyed by the patient during the intermission, and his exemption from positive pain, render him careless, and apt to neglect the admonitions of his

medical adviser. A little reflection, and exercise of good sense, are necessary to rouse him to a due feeling of the fallacy to which he is blindly submitting; and if he be conscious that the confidence of the patient is the vantage ground of the physician, he will hardly be so far his own enemy as to refuse it. A timely submission, for a short period; and a slight forbearance from the immediate indulgence of his own phantasies, will purchase months, perhaps years of ease.

Having explained, and I trust satisfactorily so, the cause of the dyspeptic ailment which forms one of the ordinary concomitants of asthma, I need not enter into any reasons for my advising that next to any tracheal or thoracic complaint, which may either be left, or which may supervene after an attack, the attention be especially directed to the state of the digestive functions. It is with this, as with the preceding ailments; neglect will be likely to convert the dyspepsia from an effect to a cause. Here, again, the application of leeches is calculated to operate beneficially. It is a puerile mistake to imagine, that aromatics will remove the flatus attendant on a dyspeptic state. The only effectual, and rational practice, is to remove congestion of the mucous surface by a topical application, whilst gentle laxatives will

disperse gastric and intestinal uneasiness, the results of internal congestion.

An efficient and grateful medicine to be taken is formed of rhubarb, magnesia, and a small quantity of hydrargyrum cum cretâ, together with mucilage, in camphor mixture. As a mild laxative, and possessing other valuable properties, I would recommend two or more spoonfuls of Lockyer's calcined magnesia, with lemon juice. It is cooling, and, in general, grateful to the patient. I usually advise the dose to be repeated every morning, or every other morning, as circumstances may require, until the dyspeptic symptoms entirely disappear. A very frequent complaint made by asthmatics is of pain at the pit of the stomach, in the direction of the ensiform cartilage. This cartilage forms, what may be termed, a central point, in which, by tendons, or fleshy fibres, important muscles either are inserted, or have their origin. The spasmodic state of the chest in asthma influences the action of these various muscles; and since the strain upon them is in different directions, each reacting on the other, the pain produced is often so considerable as to be mistaken by both physician and patient for internal inflammation. I have often been, I was about to say amused, but cer-

tainly induced to smile by the over-anxiety displayed by medical practitioners, as well as the asthmatics themselves, with respect to a sensation so easily accounted for by the anatomist.

It may not be unimportant to observe that I have frequently witnessed similar misapprehensions concerning pain felt in the same, or adjoining regions, arising from a similar cause, and being concomitant with pectoral disease in one form or other. The patient, therefore, may, in general, dismiss all fear on this head. There are many little "means and appliances," which, for want of a better, I will class under the general term "soulagements," a word which we ought to envy our Gallic neighbours—and which will, collectively, prove of great value to the poor sufferer; and whatever tends to relieve, or comfort, should not be disregarded. Of these, moderate friction applied to the chest, after the entire subsidence of the paroxysm, and effected either by the flesh-brush, or by means of a piece of flannel, sprinkled with hair-powder, will be found one of the most efficacious. The pain arising from the over tension of the muscles, causing sensations of soreness and straightness of the chest, will speedily yield to this simple remedy.

Should circumstances permit, a removal, as soon as it can be with safety effected, is highly desirable. The locality, in which the asthmatic has been attacked, should be changed, as from town to country, or *vice versa*. Frequently, indeed, a removal from one apartment to another, even in the same house, is productive of benefit. So entirely subservient to the nervous temperament is this disease, that I have known a patient complain of his breathing being affected if he happened to enter a room at the back of his house; and fancy that residing in the front was essential to his health. Change, even to a worse air, will often do good; and, in the seinstances at least, we may gainsay the aphorism of Horace, "*cælum, non animum mutant, qui trans mare currunt.*"

To all patients indiscriminately, removal of course is not necessary. It is imperative only on those, who are certain to be seized in some determinate locality. They, who are fortune's favorites, and who have but to wish in order to act, will need but little persuasion on this point: and, even when circumstances are unfavorable, every effort should be strained to accomplish so important a step. To illustrate this I may mention that a servant of a Mr. S—,

a gentleman high in office in the East India House, happening to be a martyr to convulsive asthma, was persuaded to accept a situation in Devonshire, although both master and man equally regretted the change ; and that acceding to the proposition, painful as it was to him who had so long been an attached and faithful servant, a complete cure followed his change of residence. The poor fellow had derived great benefit from the measures I had taken, and it was the fear of his relapsing into his former distressing state from the health to which he had, under my care, been restored, that rendered Mr. S. doubly anxious for his timely removal before an atmosphere, unhealthy to him, should bring back his disease.

Being on the subject, it would be a poor return for kindness were I not to mention, that the kind-hearted Mr. S. was so delighted at the success which had attended my efforts in his domestic's behalf, that he honoured the next anniversary dinner of the Infirmary for Diseases of the Chest, not only with his own presence, but with that of twelve or more gentlemen, friends of his, who all became subscribers for life to that institution.

Another patient of mine, one of our most celebrated dealers in horses, who removed some

years ago from London to an elevated situation at Brixton, and who, while he resided in the metropolis, was a victim to asthma, now looks another man, and appears indeed ten years younger for the change.

We find that from whatever point of the compass the wind blows, some asthmatic or other will be incommoded by the prevailing one; although the majority, perhaps, are affected by the easterly, or the winds which blow from any quarter—whether north or south, within its range. Nor are the effects of situation a whit less variable. A high will agree with one asthmatic, a low situation with another; and I would, therefore, advise those, who have it in their power, to remove from place to place until they meet with some locality, in which the process of respiration will go on more easily than elsewhere. This advice, although it may appear somewhat fantastical, is in reality the best that can be given; since in no disease do we find so many anomalies, with respect both to atmospheric and local situation, as in asthma. One patient cannot sleep in one particular town, without the penalty of a paroxysm. Another is certain to undergo an attack, should he venture to sleep out of the same place. This was the case of

the great Duke of Ormond, whose only place of refuge was Kilkenny; to sleep out of which was to incur an asthmatic attack.

Van Helmont tells us of a patient, who "*montanis locis pejus se habet; ideoque Bruxellis vix pernoctare audet.*" I remember reading in a medical work an account of a gentleman who was freed from his asthmatic complaint by removing only one mile from the town in which he had resided; with this exception, however, that when the wind blew from the town then "came his fit again."

The old proverb, which, in its Latin dress, "*Quid nocet alteri, alteri juvat,*" does not look amiss; but which, in its English garb, is not quite the thing for "ears polite," although equally as true, to wit, "what is one man's meat is another's poison," was never more fully verified than in this complaint. Floyer says, "I have observed the fits of the asthma to happen in all the various points of the wind;" and, as a general rule, he observes, that next to the east, "the south wind is offensive, by the moist air it brings; but the west and north are least prejudicial here in England."

This quaint old writer enlarges much to his own delight, and certainly much to the amuse-



ment of the reader of the present day, on the mode in which the changes of the atmosphere affect asthmatics, and enters into an elaborate disquisition to prove "that the spirits of animals be very elastic, and those of asthmatics much more so, because so very windy."

It must not, however, be concluded, that change of air is to be sought at random. There are many circumstances, which will serve as indices to the experienced physician, of the kind of climate likely to agree best with his patient. The general constitution, the concomitants of the disease, whether chiefly displaying dyspepsia, or some form of bronchial disease, the period of life, and other minutiae, will all be taken into consideration. Nor is the season of the year to be left out of the account. The elevation, which may prove of the utmost benefit in summer, will often be too keen in winter; and the more sheltered situation desirable in the latter, prove too confined as the spring draws to a close. It too often happens that the benefit likely to accrue from a judicious change of residence, is frustrated by the physician's neglecting to warn the patient that this alone is not to be implicitly trusted to in all cases. The regimen forms a most important consideration; and it frequently occurs that

without the auxiliary aid afforded by its due regulation, a change of residence is totally inefficacious, which, in conjunction with proper directions on this head, would have restored the asthmatic to that health, in pursuit of which he has sought another home.

To sum up my observations on climate, it may be held as a general rule that a temperate and equable one will agree best with the majority of asthmatics; and that in very relaxed and languid habits a dry, bracing air will usually prove the most advantageous.

The domestic economy of the patient, if I may so term it, is the next point to be considered. In the same manner that the comfort of life depends upon a variety of minor circumstances, each insignificant in itself, yet the total forming an aggregate of paramount importance, so is it in illness, wherein numerous minutiae, commonly disregarded, serve powerfully to soothe and relieve the patient, even if not directly essential to his cure. In the present instance, however, they become of almost as much consequence as the medicine and the diet. Of this nature are the clothing of the asthmatic, the arrangement of his sleeping room, and the temperature of his

house. In persons advanced in life, warm clothing, in cold weather especially, is imperative; but all superfluous apparel should be avoided by the young and active. There is a medium to be observed between undue exposure on the one hand, and on the other a too great solicitude about flannels, and great coats. The object to be obtained by a proper regulation of the dress, is to harden and invigorate the frame, so as to render it less susceptible of the variations of the weather, and consequently less liable to attacks, which, if not superinduced, are generally accelerated by catching cold.

Should the patient have been used to an excess of clothing, he must diminish it very gradually, and begin the change in favorable weather only: all sudden alterations are bad. The use of flannel depends entirely upon the habit, and the constitution of the patient. If accustomed to it from infancy, to leave it off would prove dangerous in the weakly; and by the more robust it should be cautiously discontinued. Its use is certainly weakening, and if persisted in, the flannel waistcoat should, at all events, be put off when going to bed. The extremities, however, should always be kept moderately warm, particularly

the feet; and even in the young, I would recommend the Angola stocking in summer in preference to cotton.

There is no fault more common than that of sleeping, not only under an immoderate quantity of bed-clothes, but with the curtains so drawn as to impede the free circulation of air. In summer the curtains should always be removed, and in winter they should never be completely closed, but be left undrawn at the bottom, if not at the lower half of the sides. No precise rule can be given as to the amount of bed-clothes; this must, of course, depend on the weather, and the state of the patient's health. They should be as light as is consistent with moderate warmth, and it would be advisable to have the blankets and counterpane single, so that one may be removed, or added, as occasion requires. A mattress is preferable to a feather-bed, or a compromise may be struck, and the former be laid on the latter. The larger the sleeping room the better, and it cannot be too lofty. Height is of more consequence than the width.

The last consideration, connected with these domestic arrangements, is the temperature of the house. And in this it is perhaps preferable to err on the side of air, and thorough ventilation,

than on that of an over-heated temperature. The fire, in the patient's sitting room, should always be proportioned to the size of the apartment; and as a general rule, on all these particulars, I know of no better than that given by Withers :—"To avoid much artificial external warmth, and to breathe always a cold, or temperate air, but never a heated one."

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**Tonics.**—No class of medicines has been more extravagantly lauded, or vehemently decried for its use in asthma than this; and from the same reason, want of discrimination. In the interval of the pure asthma I seldom have had occasion to employ tonics; yet am I aware that they enter largely, though injudiciously, into the general practice. Their use has, indeed, degenerated into abuse; since they have been indiscriminately applied to debility without reference to its exciting cause. After any inflammatory state that may exist has been subdued, there certainly do occur cases in which a judicious course of these medicines, systematically and steadfastly pursued, may afford benefit; but in ninety-nine out of a hundred I have found it the safest plan to let the *vis medicatrix naturæ*, the restorative

power of nature exert itself without their aid, and it has uniformly proved the best tonic. Among the evil effects produced by recurring to this species of medicine in states, during which the practised physician will know them to be contra-indicated, the following is one of the most injurious. Bronchial disorder, in some shape or other, is apt to manifest itself after the first appearance of nervous asthma, and the injury, which in such case will follow the heedless use of tonics, is of a very serious kind. The mucous secretions of the body are interfered with, and perhaps in a more especial degree that of the bronchi; the breathing becomes more and more impeded from the constricted state of the muscles of the chest, in which, as if imprisoned, the lungs struggle to get free; and thus the physician, by his predilection for tonics, brings on those very paroxysms he is studying to avert. Their use is, in fact, hardly ever required, except when the "*nimia medici diligentia*" in the paroxysm, has brought on such a degree of weakness as to call for decided restorative measures. At other times, the debility of the patient may have been so far superinduced, by want of care to mitigate the immediate consequences of an attack, and neglect of terminating the sequelæ as soon as possible, that the

exhibition of tonics, under due regulation, may be imperative.

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**COLD-BATHING.**—Whatever advantage is to be derived from cold-bathing, arises in the first instance, and in the greater degree, from its serving as a preventive against cold by rendering the body hardy ; and in the second, from its general tonic effects. A surgeon of high eminence in his profession has, for years, been in the habit of sponging the upper portion of his body, the year round, with cold water, both night and morning, and has thus bade defiance to coughs and colds. But beneficial as cold-bathing, either partial or complete, may prove as a prophylactic, it must not be recommended without extreme caution to the asthmatic. The only proper time for using it, if it is to effect any future good, is during a complete intermission. Pulmonary inflammation is apt to result from its incautious use ; like most other powerful remedies it is a two-edged sword, that whilst employed in defence may wound its holder.

Of the several methods of cold-bathing, as total immersion of the body, the shower-bath, and partial ablution by means of a sponge or flannel, the latter is the more advisable with

which to begin ; and the second the most efficient after the constitution has been, by degrees, sufficiently prepared to meet the shock. On commencing with sponging the body, a small quantity of vinegar, or a handful of salt, may be added to the water ; and the body should be quickly dried with a towel, coarse enough to excite a healthy glow by its friction. The best time for the operation is the morning, on leaving bed ; and after continuing it for a period it may be repeated at night. When the frame has become sufficiently strengthened by perseverance in this plan for some weeks, the shower-bath may be employed ; and, when requisite, the shock will be rendered infinitely more powerful by having the feet immersed in warm water, by means of a pan placed at the bottom of the bath.

Among the ancients, Cælius Aurelianus is the only medical writer, who has expressed an opinion on the propriety of cold bathing in asthma. He merely observes that a residence on the coast, with bathing, are advisable for asthmatics ; but it is to be regretted that he has handed down to us no cases to corroborate, and exemplify his views.

Of all the accounts of the effects of bathing hitherto known, the description given by Dr.



Smollet of his trial of the cold bath, is the most interesting, as well from the celebrity of the writer as from the spirit of the narrative, and the singular good fortune which attended an experiment, in his case, of a very dangerous nature. He writes as follows :—"In consequence of a cold, caught a few days after my arrival in France, I was seized with a violent cough, attended with a fever and stitches in my breast, which tormented me all night long, without ceasing. At the same time I had a great discharge by expectoration, and such a dejection of spirits as I never felt before. In this situation, I took a step, which may appear to have been desperate. I knew there was no imposthume in my lungs, and I supposed the stitches were spasmodical. I was sensible that all my complaints were originally derived from relaxation. I therefore hired a chaise, and going to the beach, about a league from the town, plunged into the sea without hesitation. By this desperate remedy I got a fresh cold in my head ; but my stitches and fever vanished the very first day ; and, by a daily repetition of the bath, I have diminished my cough, strengthened my body, and recovered my spirits."

The good genius of the Doctor must certainly

have intervened, for a more hazardous step was never taken. The fever, and stitches in the breast, prove he was labouring under the orgasm of pleurisy, and perhaps before lymphatic secretion had taken place; and, had the experiment been made a day or two later, the world would probably have been deprived of the immortal "Life and Adventures of Humphrey Clinker."

To sum up my remarks on cold bathing, I would recommend the patient to have recourse to it only, in the absence of every symptom of asthma; and to prepare himself for its use, in order to lessen as much as possible every chance of taking cold. When commenced and pursued with due precaution, it becomes a valuable agent in subduing the morbid sensibility of the bronchial membrane; but if preparation is neglected, pectoral complaint, of some kind or other, is almost certain to occur, and do as much harm by discouraging the patient, as by depriving him, for that time at least, of the benefit likely to accrue from the prophylactic effects of bathing.

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THE SULPHATE AND OXIDE OF ZINC.—I have frequently tried the first of these preparations in convulsive diseases, as hysteria, chorea, and

epilepsy, with benefit to the patient; and am, therefore, led by analogy to conclude that the last, which is frequently used on the continent in hooping cough, may be advantageously employed in cases wherein nervous mobility is joined with so weak a state of the stomach, as to preclude the exhibition of stronger tonics. In a disease of such various character as asthma, we can hardly be acquainted with too many remedies to which to have recourse, although the young practitioner must be warned against flying rapidly from one to the other, or making use of them without distinction of their various properties. Some physicians consider the oxide preferable, as being more anti-spasmodic: but this, if correct, is counterbalanced by the superior convenience of the sulphate, which may be made to concentrate the same virtue in a much smaller bulk. The oxide is more generally known to the profession from the warm, indeed, injudiciously warm praises of Withers; and its ordinary dose, as prescribed by him, appears to have been from ten to fifteen grains. He observes, that it is to be administered only in those instances in which plethora, or fulness of blood is not present.

Either the oxide, or the sulphate may be employed with most advantage perhaps in cases in

which those passages, which are the immediate recipients of the air, permit a preternatural secretion of fluid arising from the debile state of their mucous tissue.

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**PREPARATIONS OF IRON.**—The preparation of iron most generally recommended, and which is perhaps the most generally applicable, is the carbonate. Floyer speaks unfavorably of it; and I rather incline to his opinion than to those of Laennec and Bree, the latter of whom seems to place much reliance on iron; and, indeed, he goes so far as to say that, “the preparations of iron are to be preferred as essential means of cure.” Floyer states that, “the steel, by its stypticity, stops the breath.” And, speaking of mineral waters, he says, “the steel affects the head with a drowsiness and giddiness, as all steel wines do;” adding, a sentence or two further on, “the German spaw-waters did increase my fits.” Laennec mentions that he found the subcarbonate of iron useful to patients of chlorotic complexion, and that he gave it in graduated doses from a scruple to a drachm. If iron be admissible, it is certainly indicated in the case of patients of a lymphatic constitution, whose pallid countenance

betrays a defective energy in their arterial system.

Bree seems to have generally combined the iron with some vegetable preparation, and I am inclined to attribute many of the effects, which he describes as following its use, to the drugs united with it rather than to its own virtues. On some occasions I have administered ammoniated iron in the form of a pill, combined with myrrh, and a stomachic extract, and this with some little advantage. Whenever any preparation of iron is resorted to, the condition of the stomach should be carefully examined; since by the particular state of the digestive functions, and of the system generally, its use will be indicated, or the contrary.

The most memorable instance that has come to my knowledge of perseverance in the use of iron for any complaint, is in the person of a noble individual, who, his physician Sir John Murray assured me, must have taken (the reader will allow for the hyperbole) enough iron to have built Menai bridge. The neuralgic affection of the face, under which this gallant and patriotic nobleman so long laboured, did not, I am grieved to add, yield to his constancy in trying the effects of this mineral; but Sir John having applied

to me in consequence of the cure a patient of mine experienced from a similar neuralgic complaint, which had come on some years after the amputation of a limb, I communicated the plan I had followed; and it would be a source of high gratification to me to find it prove successful in the case of his distinguished patient.

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**BARK.**—This is a remedy which has been very generally trusted to in asthma, but, with few exceptions, unsuccessfully. If the rules laid down by me for the guidance of the practitioner in the exhibition of preparations of iron are referred to, they will be found to comprize most of what is essential to be observed in the administration of bark. When the paroxysms bear a periodic character; when any symptoms of ague are complicated with those of asthma; or, finally, when the state of the system indicates its use, bark may be employed: but, unless these conditions are clearly marked, it will prove not merely unavailing, but positively injurious. Floyer and Bree both speak favourably of it; the latter, who would seem to have borrowed the practice from Millar, ordering it to be combined with bitters or iron; and Laennec, a far greater authority than

any I have yet had occasion to name, echoes the cry ; contrary, indeed, to his usual practice of sifting and examining for himself.

Heberden, who appears to have been a diligent collector of medical *morceaux*, observes that " in some a difficulty of breathing has returned periodically, like a tertian fever, and has yielded to the Peruvian bark." The truth appears to be that, with respect to bark, as with other medicines in this more than Janus-faced complaint, medical men write partly under the influence of received opinions, and partly without a careful analysis of the precise state of the patient, and that precise stage of the disorder to which he has arrived : so that a remedy is laid down as generally useful, which, in the hands of other practitioners, from want of this rigorous statement of facts, disappoints their every expectation.

The most elegant form is the sulphate of quinine, which may occasionally be combined with sulphate of zinc, in the proportion of a grain of each, taken together with six or eight grains of extract of poppies, made into a couple of pills, to be taken night and morning. Even if bark be found beneficial, its use should be discontinued after it has been persevered in for a

week or ten days, until some alteration of the health calls for its resumption. When the asthma wears a periodic character, the dose may be somewhat larger than that prescribed above, and it should be gradually increased ; more especially when the attacks appear chiefly dependent on habit.

I pass over many other tonics, since what I have already said will be a sufficient guide for their use, and proceed to the most powerful of this class of medicines. It may not, however, be unnecessary to premise, that tonics are never to be employed until any subacute inflammation, or morbid sensibility of the stomach and bowels is, by a soothing treatment, entirely subdued. When this has been inefficiently attempted, and irritability of the mucous membrane lining the stomach and bowels, or any other gastro-enteric disturbance still continues, I would most earnestly recommend the exhibition of nitrate of silver, as a remedy I have long successfully employed in complaints dependent on similar states. Its value in epilepsy, one of the most violent disorders of the convulsive class, has been long established ; and analogy led me to conclude that since its sole efficacy in this formidable complaint must depend on its lessening the sensibility of the



nerves of the digestive organs, and thereby giving tone to the whole system, it must be equally beneficial in all cases, in which there is reason to suspect morbid irritability of the *primæ viæ*. As there is every reason to believe that convulsive asthma, if it do not originate in, yet is not infrequently connected with dyspepsia; in such cases, this remedy will be found the first on the list. The dose may vary at first, from a quarter to half a grain, which after a few days may be increased to a grain, combined with extract of hop, chamomile, gentian, or any other stomachic bitter. This is to be taken twice a day, and may be continued uninterruptedly for a month, calculating from the period at which the dose has been augmented to a grain; beyond which period I disapprove of its further continuance for the time being. It may be resumed after the lapse of a fortnight, or three weeks, observing the same graduation in the doses.

Stomachic tonics, as *cascarilla*, *chamomile*, *colomba*, *gentian*, &c. may, in union with alkalis, *magnesia*, or *chalk*, serve to correct the dyspeptic ailments which are oftentimes the distressing attendants on asthma. In general the feelings, and not infrequently the fancies of the patient, will form the best guide for the

administration of this subordinate class of medicines.

The forms of indigestion are so various, that it would be an endless labour to particularize every medicine, simple and compound, which has been recommended as useful. I have given the principal; and if these cannot meet the exigencies which may present themselves, it is not to be expected that inferior agents will.

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#### FACTITIOUS AIRS AND MEDICATED VAPOURS.—

Considerable expectations were at first formed of the results to be obtained from the inhalation of factitious airs; but these have, for the most part, ended in disappointment. Reasoning from analogy, nothing would appear more likely than that a direct application to the seat of the disease, must be as eminently serviceable as we find it to be in all cases of local affections. Since asthma, generally speaking, is more or less dependent on the morbid sensibility of the mucous membrane of the air passages, the inspiring of gases or vapours appeared to offer both the substances, and medium, which would effect so desirable an end. Experience more frequently shows the fallacy of analogical reasoning than of

any other ; and has, in this instance particularly, destroyed all *à priori* conclusions. Those who first recommended these remedies are, as is usual with inventors, and their immediate followers, loud in their praise. Fourcroy, Beddoes, Ferriar, and others, give us cases in which, according to them, undoubted benefit has been derived : and Beddoes, speaking of oxygen, enthusiastically states that, "No sooner does it touch the lungs, than the livid colour of the countenance disappears, the laborious respiration ceases, and the functions of all the thoracic organs go on easily and pleasantly again."

The benefits to be derived from any factitious airs of themselves, I regard as very problematical ; but when asthma has supervened to consumption, and especially when any trace of an unhealed cavity is discernible, inhalation itself is highly to be recommended, on the grounds I have laid down in my Treatise on Consumption ; for the detail of which I refer the reader to that work.

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EXPECTORANTS.—I have occasionally found patients complain, during the early part of the intermission, of uneasiness in the chest, arising

from the presence of an adhesive, viscous mucus, which seems to act like a valvular obstruction in some or more of the bronchial tubes. The expulsion of this tenacious secretion may be promoted by some preparation of the squill alone, or else united with ipecacuan. In patients of enfeebled habit and advanced age, the decoction of seneka, taking care, previously to its use, to clear the *primæ viæ* by some gentle purgative, will be found of much service. The root itself will act as a general evacuant; since when the decoction is judiciously apportioned, it increases the urinary and cuticular secretion, while at the same time it facilitates the discharge of mucus.

A gentleman, who had been previously under the care of Mr. Abernethy, applied to me, some years ago, having suffered, he stated, for some time from asthma, and especially from sensations occurring in the intermission, and often indeed preceding the paroxysm. These were an arid, and parched feeling which extended throughout the whole of his lungs, and were accompanied by a sense of dryness in the nose, although not to the same extent. Mr. Abernethy had tried many remedies, but fruitlessly, for his relief; and he was on the eve of leaving me, after having attended me for a short time, when I bethought

myself that the application of some irritating substance to the pituitary membrane which secretes the mucus of the nostrils, might, by continuous sympathy, extend its effects to the mucous glands of the bronchial tubes. With this intent, I directed him to use, as a snuff, the compound powder of Asarabacca, which is sometimes employed as a sternutatory. Fortunately, this operated in the manner I had desired, but had hardly ventured to anticipate. The natural secretion of the lungs was restored; and not only did the arid heat, and other distressing symptoms attendant on its retention disappear, but he likewise recovered from the asthma.

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**APERIENTS.**—I have already had occasion to mention the injurious effects likely to accrue from the exhibition of these medicines to any extent; and that the freedom given by their operation to the descent of the diaphragm, since the lungs cannot speedily accommodate themselves to the emancipation thus suddenly given them, is apt to produce a re-action of the respiratory muscles. Unless the patient is troubled with costiveness, it will be decidedly improper to interfere with the bowels; but, should there be any irregularity, this

may be corrected by means of gentle laxatives, as rhubarb, magnesia, or some aloetic compound; &c.

The early writers, (and I am sorry to say some of the moderns seem to follow their decisions,) are vehement advisers of copious evacuation. Aëtius orders purges until blood is brought away, and lays it down as an axiom "*maximum est remedium purgatio fortior, per pharmaca fortiora.*" Bellonius says, "*in difficultate spirandi non est formidanda frequens et magna purgatio.*" The recommendation given by some modern writers, to purge first, and then to give opiates to counteract the effects of the drastic medicine, is on a par with the medical knowledge of their antique brethren. When the bowels are torpid, and the secretions diseased, purgatives are of course necessary; but, when the alvine contents are only partially retained, it would be more advisable to remove them through the medium of enemas, than of drastics, calculated to increase that irritable congestion of the mucous membrane of the bowels frequently observable in asthmatics.

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ISSUES AND BLISTERS.—It has been a favourite tale with writers on asthma, to tell of the benefit

derived by King William from the running of the sore upon his shoulder, made by a cannon ball at the battle of the Boyne, during the continuance of which he was free from any asthmatic attacks. From this it was conjectured that issues would produce the same effects; and, I have no doubt, that this reasoning has caused hundreds of patients to be put to useless pain. In the case of this monarch, which would appear to have been a catarrhal asthma, the inflammation and the running of the sore diverted the undue determination of fluid to the chest, and consequently tended to prevent the recurrence of the paroxysm. Whenever, too, any established discharge, or eruption has been driven in, or when asthma is complicated with gout, an issue may be beneficially resorted to; but issues, whatever effect they may possess on the complication, can exercise little, or no influence, over the disease itself.

Having alluded to the case of the above monarch, I may still further observe that he was troubled with an unusual quantity of rheum or phlegm, and it was to lessen this that Radcliffe directed his attention; a successful empiric, whose gold headed cane, after having passed through the hands of several other physicians, to whom the old proverb, "great cry and little wool," may

be fairly applied, since they all enjoy celebrity, without having effected much to forward the interests of science, was not long ago deposited in the library of the College of Physicians. From this censure I must except the last, Dr. Baillie ; who, if he had examined the human body with the same attention he devoted to the preparations of his uncle Dr. Hunter, might have produced something worthy of posterity.

There are several states, in which blisters may be applied with advantage to the patient ; but I must say, that where they are ordinarily employed in the medical practice of this country, leeches would be better calculated to ensure the desired effect. When the lungs are œdematous, blisters are of course indicated ; and in cases of inflammation it will be advisable to apply them, after depletion, to that side of the chest which is chiefly affected. They may be used as counter-irritants, to lessen inordinate secretion from the air-cells, and bronchial membrane.

In elderly individuals I have known a pituitous discharge occur to such an extent, as to threaten suffocation ; and a patient of mine used to be troubled with a discharge of colourless, ropy, frothy fluid, and excessive in quantity, coming on after the paroxysm, although, during its conti-



nuance, his expectoration had been but trifling. These cases, however, are far from common : yet when they occur, the application of blisters will tend sensibly to relieve the oppressive sensations at the chest ; they contract, by their stimulant power, the secerning orifices of the exhaling vessels of the mucous tissue, and reduce the morbid irritability of the mucous glands. In cases of venous congestion they impart a stimulus to the dilated vessels, endowing them with contractile energy, and thus restore the balance of the circulation.

The species of asthma, which we are now considering, being chiefly a disorder of the nervous function, it may be worth while to endeavour to counteract this by blistering largely ; and if the patient be a severe sufferer from asthma, he will hardly object to the trial. My predecessor at the Infirmary, Dr. Buxton, entertained so high an opinion of the importance of blisters as a remedy, that he was in the habit of ordering them in almost every stage of disease of the lungs : however, as far as my own practice is concerned, I am not so liberal in their application.

I have previously mentioned, when speaking of counter-irritants during the paroxysm, that to produce the greatest effect on the nervous sys-

tem, they should be, for the most part, applied along the chain of the thoracic ganglions.

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**DIETETIC TREATMENT.**—This must wholly depend on the constitution of the patient, and the diathesis to which he is chiefly inclined. Most asthmatics exhibit symptoms of dyspepsia, and according to the extent of these, their diet should be regulated. When free from indigestion, they are often found to labour under other complications, to be taken into account when we lay down a plan of dietetic treatment. Were the asthma pure, (a condition seldom met with,) and dyspepsia conjoined with it, no better general rule could be given the patient than to abide by the hermit's fare—bread and water. But to be practically useful it is necessary to consider the prevailing states connected with asthma; and after the dyspeptic I have found the sanguineous, and melancholic, to be the most common. The regulation of the diet is too apt to be overlooked, and yet it is to the full as important as the medicinal treatment. Celsus truly observed, that "*sanis omnia sana*," every thing will agree with the healthy—and it might almost

be asserted, that the converse of the proposition holds good with respect to the sick.

To begin with the dyspeptic—were I now considering indigestion as a separate disorder, apart from asthma, I should sum up my directions in very few words ; or, perhaps, the most serviceable advice I could give the patient would be to eschew the treatises on the subject, which have of late years tormented the press—for they are naught. Since it assumes, however, a different character, when in complication with asthma, and what might agree with the mere dyspeptic patient would, in many instances, induce a paroxysm were he likewise asthmatic, it becomes essential to enter rather at length on the subject. For example, there are dyspeptic ailments, the best cure for which would be liberal, and even high living. A hearty meat dinner, and a pint of wine is by no means the worst remedy which can be prescribed in some cases of dyspepsia ; but it would be uniformly pregnant with distressing consequences, were the asthmatic troubled with indigestion. In the latter case, temperance in drink, and abstemiousness in food, are the leading principles to be observed in point of diet. The difference of age will also form another guide in

regulating the choice of food. When reduced in strength by the weight of years, a somewhat more generous mode of living is not only allowable, but called for. Animal food should be sparingly used by both young and old; but the latter may be indulged with a little brandy, mixed with water, or wine if preferred, and occasionally sound, well-fermented table ale or beer; all which, but especially the last, should be carefully avoided by the young and strong. When dyspepsia exists to an excessive degree, it will be necessary to bring the patient to a farinaceous regimen, to which belong gruel, sago, rice, arrow-root, tapioca, &c.; and the drink must be water, either pure or with toast, and the less that is drunk the better. In less severe cases the average amount of animal food, taken *per diem*, may be about six ounces; and if this quantity, eaten with stale bread, should be found to agree, it may be gradually increased to eight or ten. Vegetables, as tending to generate flatulency and other disagreeable symptoms, should be rarely, or rather, never indulged in. Regularity in the hours of meals is also of paramount importance; and the nearer these are arranged to the natural periods for eating, that is to the medium hours between the too early meal-times of the

labourer, and the opposite extreme of the rich the better. By fixing eight for breakfast, two for dinner, and seven for tea, and by abstemiousness in each, proper time will be allowed for the process of digestion, and the appetite will come healthfully round to the appointed hours.

- Temperance becomes, perhaps, a more positive virtue in asthma, than in any other disorder. Spare, simple, and regular diet assists powerfully in the preservation of the asthmatic's health; and, consequently, irregularity and excess are equally as injurious. Nor is the good resulting from systematic plainness, and abstemiousness, confined to their direct action on the general bodily health; but, tending indirectly to equalize the temper, and preserve a quiet frame of mind, they operate beneficially by rendering the asthmatic less liable to that irritable temperament, which so often concurs in producing a fit. Hippocrates says, "If a man eats and drinks little, he shall have no disease;" and, no observation has been more generally confirmed. The rule is equally applicable to each variety of the asthma, with one exception—the pituitous, in which a more generous mode of living may be allowed; and, indeed, there are few patients who do not readily subscribe to its truth. The reason for its obser-

vance in asthma is even more obvious than in other chronic diseases generally; although it is of vital import in all derangement, or disorder of the stomach, which is sometimes the cause, and is frequently the accompaniment of the asthmatic paroxysm, so that too much attention cannot be paid to this point. Every temptation to transgress the limits of temperance, either in food or drink, should be firmly opposed. A little moral courage will often prevent a world of suffering. Fortunately, too, we are so much the creatures of habit, that a short perseverance in dietetic sobriety will render a plain, and even limited regimen, as satisfactory as the daintiest edibles in the "Almanach des Gourmands."

The regimen to be observed by individuals of a sanguineous, or inflammatory diathesis, is nearly akin to that laid down for dyspeptics. Both should be abstemious; but the latter ought to be so in quality and quantity of food, the former for the most part in quantity. The dyspeptic should decline all made dishes, soups, ragouts, stews, and entremets of a thousand and one denominations; but of these, with a limitation in point of quantity, the asthmatic of a phlogistic habit may be permitted to partake, observing however that such dishes be not highly seasoned. Stimulating

liquors of every kind, from spirit to strong ale, or beer, are likewise prohibited. But pickles, cheese, and other provocatives, from which the dyspeptic are to be debarred, may be allowed.

When the patient, without any assignable reason, labours under depression of spirits, and general melancholy, the physician must endeavour to ascertain whether the mind, or body, has most share in producing this morbid temperament. Particular courses of study, and habits of thought, often exercise a great, but unsuspected influence on the constitution; and whatever calls for great mental exertion, or over-excites the feelings, will generate this atrophy of the mind. In these cases the thoughts must be diverted from their usual channel; and if severe study be the cause of ailment, the necessity of relaxation must be enforced: if a too acute sensibility brought by situation in contact with scenes of distress, or the indulgence of gloomy and foreboding ideas, be the origin of the malady; in other words, if the feelings so far preponderate over the judgment as to prey upon the health, the physician must turn the Mentor of the patient, and appeal strongly to his sense of duty as a moral, and responsible agent. Should this disposition have continued for any length of time, it

can hardly have failed to produce injurious effects on the digestive apparatus; and medicine must be employed as an auxiliary to the diet. A due regulation of the latter, however, will, especially if conjoined with change of scene, effect much.

Should the patient have been a plain liver, and sparing in the use of food, he should be directed to improve his fare, and enjoy, of course in moderation, the social meal.

A late celebrated statesman, when praying his mother, as she advanced in years, to renounce her "water from the spring," urged, in his own beautiful and affectionate style, that—wine was the milk of age; and this expression will convey the reasoning, which prompts my recommendation of a more generous mode of living in the present instance. Should the contrary, however, be the case, and high living, together with hard study, or mental distemperature, have occasioned the atrabilarian complexion, the converse will hold good. The banquet of the epicurean must be renounced for the spare diet of the disciple of the porch; and the patient must "eat to live, not live to eat."

When bodily indisposition is the sole cause of the melancholic temperament, as it may originate in many different ways, it is impossible,



in a work like the present, to speak otherwise than in very general terms on the subject. To lessen excitement, or to excite to a healthy activity, will usually form the chief points requiring attention; and, so far as the diet is concerned, enough has been already said to give a broad view of the course to be pursued.

Directly the abatement of the fit permits it, moderate exercise is highly to be recommended; and, indeed to this, as well, perhaps, as to the influence of change of air, is to be ascribed the benefit, which Baglivi states he has known arise from following the plough. The regimen, clothing, and residence of the patient, together with the economy of his house, so far as it regards ventilation, and the arrangement of his bed chamber, all form, as I have already at some length observed, important considerations in the practice to be pursued in the intervals. Medicine, it should be remembered, is not the only, nor does it of itself constitute the principal point to which attention is to be directed. Nor are the moral agents to be overlooked. The "*mens sana*" is no less influential, as regards the body, than as it affects the conduct. To remove the exciting causes, or to remove the patient out of the sphere of their influence, is one and the same thing;

since it matters nothing with respect to disease, whether the mountain comes to Mahomet, or Mahomet goes to it.

I deem it preferable to close my remarks on each of the varieties of asthma with a single case, bearing explicitly on every prominent feature characteristic of the species. Thus, such of my readers as are victims to this distressing malady, may, by comparing their own symptoms with those recorded in each case, form a judgment as to the particular species under which they labour.

I proceed, therefore, to give a detailed account of one of the most interesting, and clearly defined cases of spasmodic asthma, that have ever fallen under my notice. The first part was taken down from the patient's own statement; and the latter, from the period of my being called in, is copied from my private memoranda.

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#### CASE OF ESSENTIAL, OR NERVOUS ASTHMA.

J. C., aged 26, was seized, six years ago, in the midst of summer, with oppressed breathing, accompanied by tightness at the chest, which first came on about two o'clock in the morning, awakening him suddenly, and forcing him instantaneously to assume an upright position. This

state lasted about three hours, and then the fit left him no less suddenly than it had seized him. Attacks of a similar nature occurred at intervals of three or four weeks, and usually about the same early period of the morning. At first, notwithstanding the inconvenience he suffered for the time, so short was the duration of these fits; and from the exhaustion they occasioned, so speedily did he fall into a welcome and refreshing sleep, that he could not reconcile himself to the supposition he was labouring under any serious disease. At the most, he merely regarded it as some temporary ailment, arising from no assignable cause, and which could not possibly have any consequences. It was only on the prolongation of one of these attacks until the evening, that a medical man was summoned, who immediately pronounced it to be a case of convulsive asthma. The patient then called to mind the having heard his father say that he had been occasionally, in his younger days, subject to this disorder; and, on enquiry, he found that a grand-uncle of his had been a martyr to it. In fact, he was convinced, by what he could learn from the older branches of his family, that asthma might be traced for several generations, in one or other of its members. No cause could be as-

signed by the patient for the appearance of the disease. He was not aware that he had contracted cold ; and as to living, he erred rather on the side of abstemiousness than intemperance.

On my questioning him closely, it appeared that, notwithstanding his circumstances were prosperous, and even affluent, he had laboured, for some time previously to his first seizure, under extreme depression of spirits. He could not, he told me, account for it, but so nervous and desponding did he become, that his rest used to be disturbed, and he would lie awake, brooding over fancied reverses and mischances.

After the exhibition of medicine, calculated to act powerfully on the urinary secretions, the paroxysm slowly left him ; but for two or three days afterwards he felt a slight wheezing, and was inclined to flatulency. He was singularly careful, subsequently to this his first serious attack, to preserve himself from every thing calculated to produce a relapse. He took every precaution, both in and out of the house, to avoid cold ; but, about ten days afterwards, he was seized, according to him, with an unaccountable drowsiness, and pain in the head ; his feet felt cold and clammy, and he experienced a slight constriction of the throat. He was sensible in

swallowing of some obstruction to the passage of solid food; and he was troubled with an unusual discharge of pale, and almost colourless water. Different medicines were administered, but proving ineffectual, it was at length proposed by his medical attendant that he should lose blood. He had never undergone the operation previously, and this circumstance most probably co-operated to produce the good effects that almost instantaneously followed. The unusual debility occasioned by two such severe paroxysms appearing within so short a period, and a stricture and weight of his chest still continuing, and alarming him with an idea that the fit would soon return, he removed to a watering place under the impression that change of air would ward off the blow. Accordingly he repaired to Cheltenham, where he remained about two months. After he had been here two or three weeks, he began to follow the fashion of the place, and took the waters; in moderation however. At the expiration of his stay, he found himself restored to as good health as he had ever enjoyed; and returning to London, he continued the whole winter without experiencing even the slightest tendency to a relapse. He began to entertain apprehensions on the approach of summer, hav-

ing heard that warm weather was the most unfavorable season for persons afflicted with spasmodic asthma. His fears, however, proved groundless; and it was not until the ensuing spring that he underwent a return of the disorder; brought on, it would appear, by some unwonted exertion in running.

During the long interval of convalescence which he had enjoyed, he had become rather corpulent, and of a full habit of body; and this, coupled with the recollection of the benefit he had previously derived from bleeding, induced a wish, on his part, that the operation should be repeated. Accordingly he not only lost blood from the arm, but had leeches applied to his chest. This treatment, conjoined with the exhibition of medicine, removed the attack; which, however, lingered longer than it had done before. It being inconvenient for him to quit London for any period, as he had done two years before, he took lodgings a short distance from town, resolving to sleep, at least, in the country air. Still the uneasiness of his chest continued; and although the paroxysm had subsided, its effects remained. He was troubled with a very painful constriction, and occasionally with somewhat impeded respiration, accompanied with slight cough,

until at the end of the summer he experienced an attack ; shortly after the removal of which, another, of the severest kind, seized him, lasting for forty-eight hours, without intermission.

It was towards the close of this paroxysm that I first saw him. His face was bathed with perspiration, his countenance anxious, his breathing excessively laborious, and he was scarcely able to ejaculate a word, speaking at intervals, and then only gasping out a monosyllable. He had assumed the attitude from which asthmatic sufferers usually experience relief, leaning forward, his face buried in his hands, which were supported by the elbows resting on the knees, and these again brought up towards the stomach, the patient's feet being placed on a stool. He appeared to be undergoing considerable pain in the head, since he made signs indicative of suffering there, as well as in the right side, in the region of the liver. There seemed also, from the manner in which he slowly moved his hand round his abdomen, pain arising from the flatulent distension of that part ; and although his position must have added to this, he was, probably, deterred from assuming any other by the fear of an increase of the laborious action, especially in the thoracic muscles. His mind, or rather memory, was evi-

dently affected by pressure on the brain, arising from the want of a free return of blood from the head. He, in fact, laboured under temporary stupor; and this state was also indicated by the vacancy at times apparent in his countenance. I ordered his feet, which were intensely cold, to be bathed in warm water, and warm flannels, wrung out of the same element, to be applied for some time to his chest, both before and behind. About fifteen grains of jalap, with four of calomel, were given to relieve the bowels, which had been confined for two days. He drank plentifully of sub-tepid water, slightly acidulated with vinegar, and the severity of the attack subsided gradually through this treatment, even previously to the operation of the medicine. His cough became easier, his expectoration free and abundant, and he discharged quantities of a viscous substance, not unlike the white of an egg. As soon as his bowels had been freely opened, he was allowed to take coffee by way of refreshment. A slight febrile state being still observable a few hours after, I directed him to take a mixture, composed of nitre, magnesia, and chalk; the former for its diuretic properties, and the latter for their antacid and absorbent qualities. About twenty grains of nitre, with ten of magnesia,



and treble this of chalk were ordered to be taken at intervals. Finding that the recovery proceeded very slowly, and that pulmonary congestion continued to exist, I prescribed the application of leeches to his chest ; and half a dozen grains of the compound squill pill, combined with three of blue pill, and a grain of ipecacuan to be taken night and morning for five or six days. I likewise laid it down as a general rule to be observed by him, that as often as the catarrhal affection returned, he should apply leeches as before, and take draughts, composed of nitre, and a small quantity of tartarized antimony, keeping himself within doors. By perseverance in this plan he entirely lost the catarrh, which, in the first instance, had probably originated in the irritation caused by repeated attacks of his complaint. The constant wear and exhaustion resulting from such continued illness produced an irritability of nerve in him, which rendered him impatient of controul ; and, disregarding prudential considerations, he began, as soon as his amended health would permit, to give into excesses of living that he had never before indulged in. The consequence of this imprudence was, as I had too truly anticipated and warned him, dyspepsia ; which, after some months, brought in its

train a recurrence of the spasmodic asthma. My own urgent solicitations, conjoined with the recollection of his former sufferings from this terrible disorder, inclined him to caution ; and he returned to his former moderate diet. My aim now was, since the catarrhal affection had been removed, to counteract the danger of the asthma's becoming habitual, by checking it "*in principiis*." I therefore directed him, immediately the symptoms of an attack became apparent, to take at one time an emetic, at another to try an enema composed of turpentine or tobacco, or, according to circumstances, to endeavour to stop the coming fit by a dose of tincture of opium. When, notwithstanding these precautions, the fit would supervene, leeches were applied to his chest, anti-spasmodics exhibited internally, and a system of soothing treatment unremittingly pursued. In lapse of time the continuance of this active opposition to the attacks, on the eve of their approach, and their prompt removal, when they did come on, by the local abstraction of blood, and other timely measures, effectually succeeded in removing the spasmodic diathesis, and restored the patient to a sounder state of health than he had ever enjoyed. As the paroxysms became milder, and less frequent, the patient commenced in the intermis-

sions a course of hardening; proceeding by degrees from the sponging of his chest with tepid water and vinegar, to the use of the shower-bath. Either this, or the common cold-bath, was, at the period he left my hands cured, constantly used by him.

I should mention that, towards the completion of his cure, I advised him to have an issue on each side of the spine, beneath the lower angles of the shoulder blades, made in a manner I had seen many years ago successfully practised in other disorders, during a stay of several months in the south of France. This is simply done by placing a piece of the bark of the Mezercon, commonly called in that country *bois saint*, about three-quarters of an inch long, and half an inch broad, on the part selected for the seat of the issue, and covering it with an ivy leaf. The slight irritation caused by the acrimony of this wood, or, more properly speaking, its inner bark, produces a salutary discharge, and this with infinitely less pain and trouble than any other species of issue. It is necessary to change it daily, unless the discharge is too profuse; in which case the same piece, after washing it, may be continued for two or three days.

On a review of this case, it will be found that

the first point to be gained, after I was called in to the patient, was the removal of the catarrhal complication. Having effected this, the most important consideration remaining was to combat the spasmodic dyspnoea, and counteract the danger of its becoming habitual.



# ASTHMA

## COMPLICATED WITH CATARRH.

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A VARIETY of affections of the bronchial membrane, fixed as well as constantly recurring from the ingression of cold, are referrible to the general head of "Asthma complicated with Catarrh." I use the term catarrh, in its perverted, but now general sense of a particular affection of the mucous surface of the bronchi, whether or not accompanied by secretion; and I think it preferable to that of bronchitis, inasmuch as (although a faulty expression) it admits of a wider range. The ancients classed under the term *κατάρρῃς*, those cases, which were subsequently known as defluxions of the lungs, as well as several acute disorders of a catarrhal form, which, as we collect from Hippocrates, soon terminated fatally: his phrase is *κατάρρῃσι συντόμως ἀπέλλυντας*. The structure and office of the bronchi render

them liable, to be easily affected by atmospheric changes. Their numerous ramifications present a great extent of surface to the action of the air; and this action is, of course, constant from their very function of supplying the lungs. The peculiar characters which catarrhal affections assume are, in a great degree, occasioned by difference of constitution, and habit. A little care will suffice to preserve some from any great inconvenience resulting from catarrhal complaints; while the most watchful attention will never save others from constant susceptibility. Again, the symptoms are peculiarly modified by the age, calling, and bodily habit of the individual.

The humoral form of this species of asthma is occasionally a consequence of the essential, and, on the other hand, is not unfrequently its precursor. Persons of advanced age are more subject to it than the young; although it is by no means of rare occurrence at an early period of life. A marked difference betwixt this, and the spasmodic form, consists in the state of the patient during the intervals, which, in the humoral asthma, produce comparatively little ease. The air vesicles are kept in a state of constant irritability by the accumulated mucus within them; and it is not until after several attacks, of a dura-

tion more or less severe, that the cough and expectoration become easier and more free. The ingression of this form is usually slow, and the symptoms gradually increase in intensity. The attack, after the first partial subsidence, and after a state of imperfect ease during the day, recommences on the approach of night. A remission of the more violent symptoms usually takes place after a short time; but sometimes attacks of equal severity will continue for a period of many days.

A disordered state of the stomach, and bowels, has been already noticed as a frequent concomitant of asthma. The patient is, in this form, generally distressed by flatulency, griping pains, and irregularities of the bowels. Loss of rest, and when sleep is obtained, its broken and unrefreshing character, contribute likewise to harass the sufferer. A slight degree of fever is not an infrequent accompaniment of the humoral asthma, particularly when the spasmodic is complicated with it. The amount of expectoration is at all times considerable, and occasionally surprisingly so. Patients have been known to expectorate from half a pound to a pound, or more, in the course of a few hours. In many cases there is



found a great regularity in the recurrence of the paroxysms. They will take place, for a considerable time, towards night-fall, or more generally on waking from sleep, and come on with much exactness.

Bree mentions a singular instance of a patient's being attacked, when in perfect health, with a paroxysm, which continued a few hours, and which returned in precisely the same manner after an interval of six months.

When the disease has long existed, dyspnoea becomes habitual; and when the constitution has been impaired by excess, or long continued and close application of a sedentary nature, it assumes that form which may be termed chronic pituitous catarrh. The blood then grows thinner, a lymphatic state of body supervenes, the frame is attenuated, and the countenance is usually extremely pale. After improving in health, the individual, who has been subject to the pituitous catarrh, will, sometimes, have the disorder changed to the chronic mucous catarrh; and the same circumstance will also happen, on the change from the cold of winter to the milder temperature of spring. Again, should the health of a patient, affected with chronic mucous ca-

tarrh, become deteriorated, the above disorder will degenerate into chronic pituitous catarrh. This is most frequently the case with females.

In chronic mucous catarrh, the expectoration bears no little affinity to that which accompanies consumption. It is, at times, of a singularly fetid nature, and occasionally exhibits traces of blood. It is true that in this, as well as in the other varieties of asthma, sanguineous expectoration may occur; but this circumstance usually arises from the presence of vomicae in latent consumptive cases, on which catarrh, in one form or other, has fortunately supervened.

In some individuals, subject to this form of catarrh, each fresh ingression of cold will induce the asthmatic paroxysm. The fit may, in such case, be owing to a congested state of the mucous respiratory surface, disposing to the spasm. The dyspnoea will in others be increased, yet not to such extent as to deserve the name of asthma; that is, the difficulty of breathing will be unaccompanied with well-marked spasmodic affection. It is by no means uncommon to find individuals subject to chronic mucous catarrh, display, on a fresh attack of cold, all the symptoms of asthma; whereas they are in reality labouring under latent pneumonia. The diminished capacity of

the lungs for the purposes of respiration, which is the result of this last-mentioned condition, gives rise to the apparent asthmatic complication. Owing to an interruption, from accumulated sputa, to the passage of air to the inferior part of the lungs, and at times from the mucous rattle being so loud as to mask the smaller unctuous rales characteristic of pneumonia, the presence of the latter passes unheeded. Hence, the patient being treated as if the disease were asthma, becomes more and more a prey to the inflammation, until he, at times, finally succumbs.

A singular circumstance, connected with this, as well as other varieties of catarrh, is, that in consequence of the voluminous and emphysematous state of the lungs, produced by their ingression, the patient is neither so liable to pneumonia as those who have never been troubled with any catarrhal affection; nor when attacked does the inflammation make such rapid progress, or spread to the same extent over the lungs.

Dr. Beddoes, who published a work on Pulmonary Consumption, in the year 1799, has embodied in it a series of what may be termed medical statistics, replete with particulars of the highest interest, but from which he drew very unsatisfactory conclusions; neither has any suc-

ceeding medical writer, to my knowledge, deduced from them the highly valuable, and almost evident principles to which they lead. The manner in which he commenced his investigations, is deserving of the highest praise. He both collected himself, and sought, through the observations of others, the ratio in which persons of different trades and professions are subject to various disorders. From these united researches, it appears that those classes, which are most subject to catarrhs, and all the diseases arising from cold, are the most free from consumption. This fact is particularly exemplified in the case of the Scottish fishwives, who, in all kinds of weather, cold, wet, warm, or dry, are in the habit of carrying heavy loads of fish on their backs, for long distances, and with excessive rapidity. At times, thus laden, a general race will take place in order first to gain the market for the highest price.

The value of exercise, on which I have so strongly insisted in my Treatise on Consumption, cannot be more strikingly illustrated. These women are subject to excessive toil, exposure to every kind of weather, and, in short, liable to all those peculiar circumstances which are usually conceived most likely to generate consumption :

yet, from the concurrent testimony of many medical men resident on the coast, and well acquainted with the class, the disease is almost unknown amongst them. The inquiries instituted amongst sailors; and watermen, and especially amongst that hard-worked, but stalwart generation, the keelmen of Newcastle-upon-Tyne, furnish the like results. Catarrhs are common; consumption rarely met with.

A very strong fact, confirmatory of what I have advanced in the same work as to the production of phthisis by the deterioration of the general health, is the circumstance that when consumption does occur in sea-faring people, it is almost invariably the result of impaired health, produced, in the first instance, by falls, bruises, strains, &c. received in the exercise of their calling.

In this work of Dr. Beddoes, butchers, proverbially a strong and active race, are stated to furnish the same exception; and the cause of this is by themselves attributed to the "smell of the meat." The same vulgar belief may be observed in the common idea, that following the plough is beneficial in consumption, on account of the odour of the freshly turned earth. A moment's reflection on the startling concurrence of these circumstances, will, I think, convince the most

sceptical, that the origin of immunity from consumption, enjoyed by all these classes, is mainly attributable to exercise; that the primeval curse, "the sweat of the brow," is to them a blessing.

Some curious observations are made by a correspondent of Dr. Beddoes', regarding the gentry in the north-west of Ireland. The fathers of these country squires, men who every day quaffed "potations pottle deep," and led the reckless life so vividly portrayed of late in the pages of Sir Jonah Barrington, are represented as reaching the age of seventy and upwards, even to extreme old age, without having suffered a week's ill-health in the course of their lives. This is justly attributed, by the said correspondent, to the active exercise which the gentlemen had been in the habit of taking; who, "either from business or pleasure, were accustomed to spend almost every day in the open air, and on horseback."

So far the writer is correct in his views; but when he proceeds to attribute the shortened lives, and premature decline of their immediate descendants to the fatal consequences entailed upon them by these habits of their progenitors, he seems to me to err quite as strangely as he was previously correct. The indolent and se-

dentary life, which he imputes to these "degenerate offspring," was undoubtedly the true cause of the marked difference in their constitutions.

The branch of my subject, which I am now considering, has led me insensibly to this seeming digression. It has been seen that those classes, who take most exercise, or who are most liable to catarrhal complaints, are, generally speaking, secure from the ravages of phthisis.

To recur to that exposed and amphibious race, the "fishwives:" they are stated, in the work to which I have made such frequent allusion, to die frequently of peripneumonia notha. Thus, we find the catarrhal state a protective against the phthisical; and far from declining strength inducing the latter, so efficacious is the emphysematous state induced, that failing health, together with frequency of colds, terminates in this aggravated asthmatic condition.

If any apology be requisite for thus wandering from the strict limits of my theme, I offer it in the words of Dr. Beddoes: "the prevention of pulmonary consumption, and its cure, may be numbered among the things most wanting to our system of life."

Having mentioned the chronic pituitous, and

chronic mucous catarrhs, I now proceed to that very common variety of catarrhal affections, combined with the asthmatic spasm, termed, by Laennec, dry catarrh. The expression "dry catarrh," is certainly a contradictory one, inasmuch as the derivation of the latter word implies, as we have already seen, a flux, or flowing; but since it has been generally received, it is not worth while to cavil at the phrase. It thus serves as a general head, under which to range those inflammatory conditions of the bronchia, which are either without expectoration, or in which it exists in a very slight degree. The anatomical character of this species of catarrh is swelling of the mucous membrane, more particularly visible in the smaller branches of the bronchia. The colour of the above membrane affords another distinctive mark, being an imperfect, or dark red, approaching to violet.

This disease is sometimes, and for a short period, latent in continued fevers; is of frequent occurrence in the chronic form; and, in its acute state, generally accompanies the beginning and end of common colds. In the latter, it is at times complicated with the pituitous catarrh.

The dry catarrh exhibits, according to its extent, very various symptoms. When the cough



and dyspnoea are considerable, the paroxysms assimilate to the asthmatic, and at the conclusion of the fits, tough, dense mucus of a pearl-grey colour, is expectorated in globules. On the super-vention of an acute catarrh, the dyspnoea is usually much aggravated. When it occurs in its lightest form, the only inconvenience felt is shortness of breath perceptible on exertion, with slight expectoration in the morning of mucus, of the colour and consistency described above. The disease is most observable in gouty subjects, in individuals debilitated by excess, and those troubled with cutaneous eruptions. They, who reside in damp situations, or bleak parts of the coast, are also commonly affected by it.

It is worthy of note, that those persons, who labour under chronic dry catarrh,—seldom lapsing into any pituitous complication,—are usually, in every other respect, in perfect good health; whereas, the contrary happens in the other forms of catarrh. This difference I attribute to the absence, in the former, of any secretion exhausting the bodily strength.

Nothing can be more variable than the pathognomonic signs of this affection, arising from the constant mutations of congestion in the mucous membrane. Thus the pearly sputa changing

place, the sounds perceptible on auscultation likewise change their locality. Accordingly, we find upon dissection, that at times such a swelling of the internal membrane of some of the larger bronchia will exist, as almost entirely to preclude the passage of air. At times, it so happens that the disease exists in one lung only. This, for example, will occur when the patient having tubercles in the said lung, or a vomica having formed, some bronchial irritation has supervened, the neglect of which has occasioned this last disorder to degenerate, through other catarrhal forms, into the chronic dry catarrh—rendering the lung generally emphysematous, and thus, in many instances, arresting the progress of phthisis.

I have long observed, in cases of mal-formation of one side of the chest, as well as in individuals, who have suffered severe attacks of pleurisy, or of peripneumony of some duration, confined to one lung, that the opposite one becomes voluminous, and the patient is finally subject to dry catarrh. Under any circumstances producing increased mucous secretion of the air passages, or else spasm, or congestion of the same tubes, the result will ordinarily be this dilatation; in order to overcome which, convulsive action of the

respiratory muscles sometimes takes place, thus exhibiting the phenomena of asthma.

The peculiar condition of the bronchial membrane, its structural alteration, and preternatural sensibility are, as has been seen above, a remote cause of the spasm; and the habitual state of disorder existing in it, is, I have little doubt, frequently aggravated, and called into action by cold, or some other influential agent.

The thorax is habitually unequal, and irregular in its movements. The inspiration is short and quick; but the expiration takes place by degrees as it were, being slow and incomplete. When emphysema is considerable, and of old date, an expansion of the intercostal spaces is effected, and the thorax becomes prominent. If the affection is single, one side is rounded; if double, both.

Having now noticed the three varieties of catarrhal asthma, dependent on a chronic state of the mucous membrane, I proceed to the consideration of a case of asthma mentioned by Dr. Parry, which, from its sudden termination, has been termed acute or congestive asthma. He relates, in his "Elements of Pathology," that an individual died in the space of fifteen or twenty

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minutes, with every symptom of spasmodic asthma, without having experienced any previous disorder of the chest. There was exhibited, according to him, complete suffusion of a damask rose colour, amounting, in some places, almost to blackness of the entire mucous membrane of the trachea; and of all the ramifications of the bronchi. There seems to have been a want either of minute investigation into the morbid appearances displayed by the subject of the above case; or of that previous pathological knowledge which would have rendered such an investigation available. From my own experience in autopsic examinations, (and I have had a very long and extensive one,) I think it probable that Dr. Parry overlooked some lesion of the heart, or even of the lungs themselves, and that the appearances described did not arise from the sensible mucous membrane alone. Congestion, at all events, is by no means a necessary accident in similar cases. Wichmann states that he has seen an instance of acute asthma terminating in death, and that he did not observe, on opening the body, any alteration either in the trachea, or the lungs. I have to make the same observation on this case, as on the former—some lesion most probably existed, but escaped notice.

I have already alluded, but cursorily, to that form, which goes under the name of Millar's asthma. Guersent, in the Dictionnaire de Médecine, seems to have entertained the same opinions as myself, respecting the futility of Millar's views, and his unfitness for pathological enquiries. He states that "*la description de Millar est accompagnée de trois observations particulières; l'une d'elles est absolument insignifiante.*" The professor would not perhaps have been so severe, had he been aware that until a very recent date, medico-pathological investigation has met with little countenance in this country. Guersent conceives that Millar, and those subsequent writers who have acquiesced in his reasonings, have confounded, under the general name of acute asthma of children, three or four different maladies. He further observes that Millar seems to have had in view a peculiar disorder different from croup, and which he designates by the name of false croup. It is a very just remark of the same author, that "a great number of observations proves remittent, or intermittent dyspnoeas to be most generally, both in children as well as in other ages, one of the symptomatic effects of different phlegmasias of the organs of respiration, of œdema, or emphy-

sema of the lungs, or of the symptomatic effects of any lesion of the organs of digestion."

In summing up his remarks on acute asthma, Guersent states that he has never recognized any organic lesion which could induce him to suppose the dyspnœa to have been purely symptomatic: my own experience leads me to very contrary views. Before concluding my observations on complicated asthma, I shall probably have occasion to give some reasons for this difference.

Having considered the ordinary symptoms of these catarrhal diseases, which are sometimes known under the designation of habitual asthma, I proceed to develop a plan of treatment for each variety, in the order in which I have already arranged them: and I may here, at once, state it as my opinion, that every variety of catarrh deserves the name of asthma as soon as the lungs become emphysematous.

Of all others, the catarrhal varieties of asthma, in consequence of the extreme sensibility of the mucous membrane of the lungs, are most liable to renewal, and exacerbation, from the ingression of cold. Hence, the treatment must be chiefly directed to restore this membrane to its natural condition. In the pituitous form, connected with asthma, with a view to diminish the inordinate

secretion of sero-mucous matter in the lungs, the superabundance of which, in many instances, threatens existence itself, and is, I am satisfied, the cause of the great pulmonary distress observable, I am a strong advocate for the immediate application of counter-irritants. A blister applied to the centre of the thorax, and after being suffered to remain for three or four hours, successively removed and kept on three or four other parts, for the same space of time, will be found beneficial; and, in some cases, where the symptoms are urgent, and the aggravation of the pituitous state is considerable, small sinapisms composed of mustard and linseed-meal, will act more speedily. The spirits of mindererus, and camphor mixture, to the extent of half an ounce each, with some ethereal spirit, administered at short intervals, will excite the skin, and kidneys, and thus lessen the catarrhal flux. Whatever will promote universal warmth, and act derivatively from the chest, by inducing perspiration will be found to lessen the undue secretion, which operates as a foreign substance in exciting unnatural movements of the chest. Thus the foot-bath, warm, demulcent drinks, and a well-regulated temperature, by means of stoves, or otherwise.

There is no form of pulmonary disease, in which I have found attention to this latter point, of such paramount importance. The Infirmary, which is open for the reception of in-patients during the winter and spring quarters, has its temperature so regulated, by night as well as day, as to imitate the heat of summer ; and my experience here has shewn me, that this equable warmth acts almost as a specific in this complaint.

Patients, whom I have received almost immediately from hospitals unrelieved, have quickly become convalescent, and have remained free from their disease for years, chiefly through the stimulating influence of the warm air on the cutaneous capillaries, and its acting with almost styptical powers on the pulmonary mucous surface.

In illustration of this point of treatment, I may adduce a case which fell under my notice some years ago. Having the privilege of visiting and witnessing the medical practice of the — Hospital, in virtue of a sum of money, for which I cannot say I ever had value received, I was, in flattering terms, requested by one of the physicians, in the presence of some of his pupils, to give him my



opinion of a patient, who was suffering under catarrhal asthma, with pituitous discharge to a great extent. After having made myself acquainted with all the phenomena of his case, and finding that his lungs were inundated with serum and mucus, to a degree threatening suffocation, and that he was, in addition to the weakness produced by this, likewise debilitated by purgatives causing evacuations several times in the day, I hastened to pass my judgment, as entreated to do, with as much readiness as I had testified in proceeding to examine the case. I very frankly pointed out the probable aggravation of his complaint by the undue administration of cathartics, and the want of counter-irritation to the chest. No sooner was my opinion declared, than the compliments he had previously paid to my acquaintance with pulmonary disease, even to the under-rating, before his pupils, his own knowledge in comparison with mine, were changed into affected contempt. His praise, or the contrary, was equally unimportant to me. I was aware that he was indebted for his situation, not so much to his talent, as to his happy stars. Relationship put the "newest gloss" on his qualifications. In fact, the — Hospital stands *per se*, in the hereditary virtues of its medical

officers ; and if the spirit of clanship be ever extinguished among our northern brethren, it may be certain of a fostering asylum here.

To return to the case. The same plan of treatment was followed, and the patient finally became dropsical. He had heard my suggestions to try an alteration of medicines ; and finding subsequently from a fellow-patient that I was Physician to an Infirmary for Diseases of the Chest, he, of his own accord, withdrew himself from the hospital, and applied to me. When I saw him at this period, his countenance was bloated, anxious, sub-livid ; his lips, nose, eminences of the cheeks, and lobes of the ears, were perfectly blue ; his breathing high and painfully laborious ; he could with difficulty support himself on his legs, which were quite dropsical. His cough and expectoration were almost incessant. He looked as if he had been long a stranger to sleep ; and I found, indeed, that the dread of suffocation prevented his giving way to " tired nature's sweet restorer ;" and that when exhausted by sufferings and watching he snatched a few minutes' repose, he would suddenly be awakened by the most fearful dreams. There being no vacancy at the moment, I was obliged to keep him for some time as an out-patient. I

ordered the immediate application of blisters to his chest, but with a caution that they were to be removed from place to place, previously to vesication. He was supplied with cretaceous medicine, having nitre and squill as adjuncts, with the intent of checking the undue relaxation of the bowels, and acting on the kidneys. I advised him to remain at home, with as much attention to warmth and comfort as he could command; he having suffered from cold in the extensive ward of the hospital in which he had been placed; and where the impossibility of resting in a horizontal posture from the severity of his orthopnoea, kept the upper part of his body too frequently exposed. So critical did his situation appear to me, I felt it right to warn the person who accompanied him, that unless the remedies ordered produced relief, his early dissolution might be expected.

On next visiting day at the Infirmary, I was glad to be informed by his friend that he was somewhat better; and I directed the same treatment to be continued. In about a week after this I had a vacancy for him, and received him into the Infirmary. Here, his amendment, within very few days, was equally decided and remarkable. His bowels had returned to what

was their natural state ; his expectoration was daily reduced in quantity, with a wonderful alleviation of his other pectoral complaints ; and from the steady and wholesome activity of his kidneys, the œdematous state of his body had undergone great diminution. With these favourable changes, his appetite also had, in great measure, returned ; and, of course, he became generally invigorated. So happy were the effects of the due regulation of the temperature, in conjunction with diuretics, and rubefacients to his chest, that in two months he left the Infirmary in a most satisfactory state, without either cough, or any vestige of an asthmatic condition of the lungs. After giving him the directions proper to be followed, in order to prevent all danger of relapse, and above all enjoining him to be on his guard against the ingression of cold, I dismissed him with a recommendation to shew himself to his former medical curator at the —— Hospital. I could do no less in return for the urbanity with which that person had treated me. Towards the close of the following winter this patient called upon me to express his thankfulness, and to assure me that he had not enjoyed such a state of health for many winters, having been, for the ten preceding

years, more or less a sufferer from asthmatic breathing.

It forms an interesting fact, in the treatment of this disease, that although up to a certain period the patient improves rapidly whilst under the genial influence of a duly regulated temperature; yet, if suffered to remain in it beyond the limited time, a sensible difference in health usually occurs. The reason is obvious. When first removed into what may be not unaptly termed a warmer climate, the entire system is stimulated by the increased temperature of the air; and the surface of the body is excited to a quick, and lively glow, constantly maintained. This condition is, for a time, as I have above stated, attended with the happiest consequences; and I almost invariably find that two months is the maximum, to which the residence of this class of patients in the Infirmary can be advantageously extended. If kept there for any period beyond this term, from the want of exercise, and the reaction which takes place in the patient, who, having reached the crisis of invigoration, naturally retrogrades, the result has been, in some instances, unfavourable. Again, if the patient be dismissed after a protracted stay,

he has become so acclimated to a warm temperature, that he is alive to every impression from cold; but if removed, whilst the system, and more particularly the cuticular surface, are in a state of healthy activity, he is thoroughly fortified against the influence of a colder air, except there be great imprudence on his part.

Having digressed at such length on the influence of temperature, it is necessary to state, before I make my concluding remarks on the medical treatment, that the temperature usually maintained in the Infirmary, both day and night, is from sixty-five to seventy degrees of Fahrenheit.

Of the catarrhal affections, complicated with asthma, the pituitous is the most dangerous, especially to the elderly, and requires the most careful attention on the part of the patient. But should a relapse be, by due care, prevented, after a cure has been effected in the manner described, I generally find that he will get over the following winter without a return of the complaint; and in not a few instances continue free from it for years. When the result is not so favorable, great mitigation, however, will often occur from the patient's having the pituitous catarrh changed into a milder form, as mucous catarrh.

I have said that this is the most dangerous species, nor does the opinion want the support of many reasons. The patient's strength is exhausted by the abundant watery discharge from the chest; and there is always great danger of the supervention of œdema of the lungs, from the secretion's not being confined to the mucous surface of the lungs, but its going on likewise in the cellular membrane. The asthmatic paroxysms are much milder in the pituitous, than in the other species of catarrh; and the probable cause may be that the constant secretion obtunds the nerves, and that thus the convulsive actions of the respiratory muscles are less excited by irritation of the respiratory surface.

Since bleeding is at times resorted to in this disease, and since depletory measures are, in no species of catarrh, complicated with asthma, likely to prove so dangerous, I think it necessary to mention that I have known very untoward results ensue from the practice. Indeed, after the serious weakness, which I have mentioned as following the too copious use of purgatives, in the case of the patient of the — hospital detailed a few pages back, I need hardly dwell at any length on the probable effects of bleeding. Two cases fell under my knowledge many years ago, which

made a deep impression on me. The one was in the person of a stout, able-bodied man, of about fifty years of age, affected with a pituitous catarrh which had suddenly assumed an acute character. He was judged to be in a favorable state for bleeding, and blood to the extent of eight or ten ounces was taken from his arm; but before the assistant could bind it up he was dead. A thin, frothy fluid bubbled up to his lips, and continued for an hour, or more, after his decease; and on pressing the abdomen it came out in unusual quantity. The other case was that of an individual who had been subject to asthmatic attacks, and whose complaint, from the enfeebled condition that thus ensued, had degenerated into pituitous catarrh. Under the erroneous view of giving relief to the anxious respiration, and general pulmonary uneasiness, he was induced, contrary to my advice, to submit to be cupped on the chest; but scarcely had the glasses been removed, when he expired. In this case, the frothy fluid, discharged after death, was tinged with a brownish hue.

I may here notice a curious fact connected with this species of catarrh. The patient is much less liable to perspire than in the other varieties; and I attribute this want of action in the cutaneous



capillaries, to the great secretion which takes place from the mucous surface of the lungs. It has been long noticed that, in the animal economy, the increase of one secretion causes the diminution of another; and thus it would seem that this pulmonary diabetes, if I may so term it, occasions the dryness of the skin, and coldness of the surface usually observable in this disease.

The best medicines are those which act as derivants, and especially those which determine to the surface of the body. Thus the compound ipecacuan powder, in small quantities, alone, or with some mild mercurial preparation, or else with some antimonial, may be steadily administered, with the view of producing a moderate perspiration, and thus counteracting the unnatural and debilitating bronchial secretion.

I have already had occasion to speak favorably of the effects of mercury, when properly indicated. When given, in this form of disease, it proves a general stimulant: and it imparts energy to the absorbent system, whilst, at the same time, it establishes an equilibrium among all the important secretions of the body. A grain of calomel, or two or three grains of blue pill, administered with assafoetida, compound squill pill, or the compound galbanum pill, or myrrh, will

be found, taken night and morning, for a short period, to agree well. I sometimes order squill, in combination with nitre : and I have observed that the substances, known under the name of expectorants, from their supposed power of acting on the respiratory surface, and on its secretions, instead of forwarding diminish the expectoration. They appear, in fact, in this disease, to excite the bronchial mucous tissue to a new action.

Warmth being so essential in this complaint, it may be recommended to the patient to keep his bed when his disorder is very troublesome ; and particularly when the weather is severe and frosty. The occasional use of the pediluvium is advisable : and, on the approach of the winter season, attention to the clothing is more requisite in this, than in any other complication of asthma. Care in this point will never be thrown away ; and during rigorous weather the patient should, if possible, keep entirely within doors. A warm climate is especially indicated in this variety ; and change, with this view, cannot be too strongly advocated.

Tonics and astringents would appear likely to be of eminent service ; but although their use for a day or two may not be unproductive of good,

they occasion what patients feelingly term a tightening of the chest; and are, therefore, to be sparingly employed.

Having thus detailed the medical treatment proper to be observed in the pituitous catarrh, which is the most debilitating of these asthmatic complications, I now proceed to consider that which should be pursued in the chronic mucous catarrh, a species which admits of much more vigorous measures. Slight fever is an occasional accompaniment of the chronic mucous catarrh, especially when the patient's constitution has not had time to be thoroughly accustomed to the disease; or when the renewal of the attack is severe. In some of these cases, too, small portions of the lower lobes of one, or both lungs, will be found to be the seats of peripneumony, which is not easily detected, unless by the highly experienced auscultator. Abstraction of blood is, of course, indicated in the above instances; as likewise when the oppression of the chest is considerable, the cough violent, with pain, more or less unremitting. For the most part local depletion by leeches, or cupping, will be sufficient; but when there exists local, or general plethora, or inflammation to any extent, more active depletory measures may be resorted

to. Blood may be taken from the arm, to the extent of ten or twelve ounces. When active treatment is rendered inexpedient, or impossible, either from the patient's time of life, weakness, or the long protraction of the disease, recourse may be had to blisters. The most efficacious mode of applying these, and other epispastics, I have already fully detailed.

It is desirable, in this disease, to alternate blisters with leeches. Indeed, medical men do not appear sufficiently sensible of the advantages to be derived from these local applications, judiciously alternated. When care is taken that the quantity of blood abstracted by the one, and the discharge occasioned by the other, are not too great, the benefits are incalculable. This practice, conjoined with common caution in avoiding cold, will be found to preclude much necessity for medicine. The most serviceable medicines are the saline febrifuges, such as nitre, the liquor ammoniæ acetatis, &c., with a small quantity of tartar emetic; and, in fine, all that class which will either determine to the kidneys, or excite the skin to a healthy moisture. On the subsidence of every symptom of fever, sedatives, as extract of poppies, henbane, &c. may be administered: and as the alkalis exercise a great

influence in diminishing the morbid sensibility of the mucous surfaces, in various parts of the body, in a manner not easily accounted for, I usually prescribe Castile soap, in combination with the above sedatives, with a grain of ipecacuan, and of squill, in each dose. Laennec states that narcotics, and in particular the recently prepared powder of belladonna or stramonium, in doses of half a grain to a grain, afford most relief. Their administration is frequently followed by the speedy, but temporary cessation of the dyspnoea. This he attributes to the diminution of a necessity for respiration; but it is rather to be ascribed to their anti-spasmodic power. The lessening of the spasm admits a readier passage for the ingress of the air; and consequently if the inspirations be not so frequent, they are yet of a fulness which more than compensates the apparent diminution. During the spasmodic state, too, the substances, which ought to pass off freely in the expiration, as nitrogen, carbonic acid, and aqueous vapour, are injuriously retained; and serve, in many instances, by their undue retention, to maintain the dyspnoea. Such a condition likewise must exert no small influence on the sanguification, and on the animal temperature.

From the time of Cælius Aurelianus, the inha-

lation of medicated vapours has been recommended in diseases of the lungs. I have offered some remarks on their use in the essential, or nervous asthma. It is possible that when steadily followed up for a considerable period, the passage of various emollient substances along the mucous surface of the bronchial membrane, may be productive of some beneficial change in this form; but I attach no importance to their exhibition, when the lungs have been long emphysematous by the continuance of the disease. The fumes of different narcotic substances, as hemlock, hyosciamus, extract of lettuce, or extract of poppies, arising from pouring boiling water over them, either alone, or in conjunction with camphor, or aromatic vinegar, may be used. A solution of balsam of Tolu, together with sulphuric æther, or the vapour of the sulphuret of iodine, may be occasionally employed. When the fumes of Chlorine, or of boiling tar, are used, the preferable method is, to suffer the vapour to be diffused in the air of the apartment. It should, however, be observed as a general rule, that if the cough is aggravated, and the circulation quickened, their use should be at once discontinued; and that the vapour of the

more stimulating substances should at first be exhibited in a very diluted form.

I entertain little doubt that in many cases, in which benefit has been derived from inhaling the above substances, chronic mucous catarrh has supervened on consumption; and in such instances I have ever known the practice attended with the most favorable results. The "modus operandi," in these cases, has been already submitted to the medical profession in my Treatise on Consumption; and for the pathological reasoning, on which it is founded, I must refer the reader to that work.

The good, accruing from the inhalation of vapours in chronic mucous catarrh, may, at times, arise from their action on the mucous surface, rendering it less liable to be affected by atmospheric changes; and it is frequently attributable to the improvement produced, in some measure, on the general health by the effects of inhaling on the sanguification.

Numerous patients, labouring under this disease, have been admitted into the Infirmary; and they have, in general, experienced the most marked benefits from its well-regulated temperature. I have adverted to the good effects derived

from warmth in chronic pituitous catarrh; and they are no less observable in the present disorder. The secretion is lessened, and a change is effected from the heavy, yellow sputa, excreted in this disease, to a healthy mucosity; and where the asthmatic complication has been well-marked, it has been often permanently removed by the relief of the catarrhal state.

Different balsams have been lauded in this disease, and especially that vulgarly called the balsam of copaiba. This has met with several admirers, and the late Dr. Armstrong in particular has been loud in its praise. He wrote, however, I apprehend, from views chiefly gleaned in private practice; and such must ever labour under the defects inseparable from insufficient data. Copaiba is usually very revolting to the stomach, and is far from being certain either to soothe the cough, or alter the expectoration.

Counter-irritation, by means of friction, and the application of tartar-emetic ointment, are, at times employed; and the pustular eruptions, thus produced, are occasionally maintained for no inconsiderable period. This practice is by no means a favourite with me in any visceral disorder; and I have often found the constitution



sympathize injuriously with the local excitement thus called forth.

I now come to consider the treatment of the dry catarrh, which is usually chronic. This disease may supervene either to convulsive asthma, or to the other varieties of catarrh, and when extensive is accompanied by emphysema of the lungs. When there is no defluxion to attenuate the body, and the constitution is thus little disturbed by the local affection, in comparison with what occurs in other catarrhal disorders, the patients are usually healthy in appearance, and subject to plethora. Since those individuals, who labour under dry catarrh, have, in general, voluminous lungs, from co-existent emphysema, the first point to be attended to in the curative process is the avoidance of all unnecessary exertion. Ascent of any kind, and even the mere walking up-stairs, are certain to induce shortness of breath, by the upward movement thus given to the diaphragm; which, in its turn, presses on the lungs, already too large for the purposes of free respiration, and impedes their action. The same consequence will ensue from repletion; and also from flatulence of the stomach and intestines. It follows, then, that the patient should

be doubly attentive to the due regulation of his bowels, and carefully avoid their being overloaded by either indulgence on the one hand, or neglect on the other. In some individuals suffering under this complaint, it will at times happen that the chest does not exhibit externally that enlargement, which I have stated to be a consequence of the increased volume of the lungs; but in such cases it will be found, that what is wanting in width is often compensated by the extension of the lungs from above downwards, thus encroaching considerably on the abdominal cavity.

Another caution very necessary to be given the patient in this disease, is to guard against the ill effects likely to arise, without due care on his part, from changes of weather. Accustomed, during the summer, to habitual shortness of breath, a carelessness, as to exposure, is induced by the idea that he can hardly be more incommoded than he generally is, and he thus becomes the most heedless of catarrhal sufferers.

The derangement of the circulation, which is the consequence of the frequent congestion of the lungs, and which I have already had occasion to explain, is, at times, productive of some affection, the co-existence of which, with dry catarrh,

has occasioned the several names of hepatic, gastro-enteric, hysteric, &c., to be given to the cough, according to its presumed connection with the particular organs thus implied.

If the patient happen to have the disease, unaccompanied by cough or expectoration, or, in other words, if he be affected by latent catarrh, it is in his power, by care and prudence, entirely to emancipate himself from the dyspnoeic symptoms. Supposing that he could remain without the above condition's being made manifest, the simply enlarged air-cells would, in time, return to their natural size; but to find a patient sufficiently cautious for this to take place, would indeed be a miracle. The asthmatic patient, in this form, is always prone to consider himself convalescent when he contrasts his condition with that of the more violent sufferer; and instead of measuring his state by that of perfect health, he inconsiderately makes a standard of disease by which to form his estimate.

It is, indeed, no uncommon occurrence to find persons, habitually subject to dry catarrh, suffer attacks of acute catarrh, in which case the dyspnoeic symptoms are of course much aggravated. The mucous membrane of the bronchi will become tumefied, fever supervene,

and a fit of asthma be at length induced. When these attacks have been frequent, fever is seldom recognized, since the constitution no longer sympathizes with the affection of the chest; except, indeed, when the attack happens to be of unusual severity.

Laennec denies that any advantage is derivable from bleeding, and some periodical writers in our own country, who servilely transcribe his views on the subject, echo his opinion. But the greatest genius is not infallible; and experience has sufficiently proved to me, that when there is an access of fever, and the patient's countenance indicates uneasiness and congestion, with lividity of the lips, and other signs of circulatory disturbance, the lancet, judiciously employed, is productive of decided good.

I may here observe that I am no friend to the unnecessary abstraction of blood, and would by no means encourage a wanton expenditure of the *pabulum vite*. Still, in cases such as I have just alluded to, and when the age of the patient does not contra-indicate bleeding, it would be unwise to reject a positive good for an hypothetical ill. At all events, local depletion may be unhesitatingly recommended in this, as well as in

the other species of catarrh. I prefer leeches to cupping; yet the latter may be at times safely and advantageously employed. Sometimes the circulation will become so languid as to induce a morbid susceptibility, which renders the patient liable to be affected by slight changes of the atmosphere, or other trivial occasional causes. From this, and other considerations, as well as from the fact that those who are habitual sufferers from this disease, are seldom inclined to inflammation, it will always be advisable for the physician to be "*medicinam expectans*," and to wait a reasonable time to see if any change will occur to obviate the necessity for depletory measures.

Having been already very full and explicit upon the treatment of the other varieties of catarrh, and having given the reasons for the exhibition of the different medicines therein recommended, in accordance with the various states and stages of disease, it would be repeating what has been previously said to enter minutely into the practice to be followed in this species. Generally speaking, what is applicable to the accidents of the one, holds good with respect to those of the other. The chief point to be attended to, is the complication; and ample directions have been given whether this take the chronic pituitous

form, or that of the chronic mucous catarrh. Attention should be especially given to diminish general excitability, and to regulate the circulation. When febrile symptoms occur, they should be carefully watched, and recourse may be had to the cooling saline medicines, antimonials, &c. ; and when it is an object to promote expectoration, the different preparations of squill, combined with ipecacuan, according to the various formulæ already presented, with demulcent drinks, may be resorted to.

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CASE OF CHRONIC PITUITOUS CATARRH, COMPLICATED WITH ASTHMA.

E. E., aged 50, applied to me about twelve years ago. Her appearance was delicate, or rather emaciated, and betrayed all the signs indicative of mental trouble, and bodily fatigue. On tracing the history of her case, it appeared that she had been formerly of sanguine habit, and likewise possessed of a good constitution; but that the toil attendant on rearing, and providing for a family, (she belonging to the working class,) and the deprivations to which she had been exposed, had gradually undermined her

health. This deterioration proceeded slowly at first; but at length her constitution underwent a sudden and great change, at what is always a very critical period in the life of a female. The first distressing symptom was cough, which, after a time, was accompanied by expectoration of a yellow colour, occasionally streaked with blood. Towards evening, flushings, and general hectic disturbance would come on, and these gave rise to a fear of consumption, to which disease a sister of hers had some time before succumbed. The room which she occupied having a chimney, which smoked when the wind was in a particular direction, this inconvenience added to the severity of the cough, and, on one occasion, aggravated it to such a degree of violence, that she momentarily expected to rupture a blood-vessel. From this period she first experienced difficulty of breathing; and soon afterwards her expectoration began to change its colour, to assume a greater degree of mucosity, and to diminish in quantity.

A change, for the better, took place not long after; but this was only temporary. The difficulty of breathing came on in a still more painful degree; and one evening, after a day of more than usual fatigue and privation, she was sud-

denly seized with an attack of spasmodic asthma. The fit subsided towards morning; but recurred on the two following evenings, about the same hour that the first attack had manifested itself, although with diminished symptoms. From this period, the spasmodic paroxysms returned at uncertain intervals. She continued in this state for many months, during which she had to struggle with the worst ills of poverty. Insufficiency of food, exposure to cold both in and out of doors, and the other privations which accompany scanty means, seriously affected her constitutional health, and she began to expectorate in considerable quantity. The mucus thus excreted was thin; nearly colourless, underneath like water, but thicker, and with a bead, or head on its surface. On some occasions, after violent coughing, this would present a somewhat reddish tinge. The paroxysms of asthma now came on less frequently, and at length seemed to have disappeared, although she laboured under almost habitual dyspnoea. She complained of having suffered much at this time from cold of the extremities, and other symptoms evidently connected with disordered circulation.

It was in the third winter of her being in this state that she first applied to me; and at this



period she was evidently labouring under confirmed pituitous catarrh. Her breathing was anxious, and frequent; she complained much of pain in the head, and when a violent access of coughing came on, her lips would assume a sub-livid appearance, and the intensity of the cough would not only cause turgescence of the veins of the forehead, but would give rise to so great a distension of the veins of the neck, as to occasion cerebral congestion; the respiration would become stertorous, and the patient fall momentarily into a comatose state. Examination by the ear, and by the stethoscope, gave the r le sibilant, as well as mucous rattle of a watery character. From the character of the sound given out in expiration, over the region of the summits, and other parts of the lungs, and which might be likened to air squeezed out of some porous, compressible body, it was clear that emphysema had begun to manifest itself.

Fortunately for the poor sufferer, a favourable change in her circumstances occurred soon after I first saw her, through the death, if I recollect aright, of some relative. The happy effects, arising from her bettered condition, were not long in making themselves visible. Above all, the warmth, both of clothing, and in her resi-

dence, which she was now enabled to enjoy, produced the most salutary effects. She rapidly gained flesh, her cough and its attendant expectoration diminished in a surprising degree; and although the dyspnœa continued, it was much moderated.

The asthma, it must be noted, has never returned subsequently to this happy alteration in her means; and its non-recurrence may, I would suggest, be attributed not less to the ease of mind thus imparted, than to the personal comforts she has been enabled to indulge in.

Having already given a minute account of the treatment observed in a similar case, it is unnecessary to describe the particular practice followed in this, as it would be merely a recapitulation. I may mention, however, that blisters were occasionally used with advantage, according to the plan I have laid down at p. 238. She left my hands with very little of her disorder remaining, but with her lungs, as was to be expected, still slightly emphysematous. Two years afterwards, I had an opportunity of making enquiry as to the state of her health, and was gratified to hear that she remained perfectly free from her former complaint.

**282    ASTHMA COMPLICATED WITH CATARRH.**

**CASE OF CHRONIC MUCOUS CATARRH, CO-EXISTENT  
WITH ASTHMA.**

James Stuart, Esq. aged 25, applied to me on the 19th of May, 1824. He stated, that eight years previously he had been first attacked with difficulty of breathing, which continued to return at irregular intervals. Taking cold, however slight, was certain to induce a recurrence of the oppression. This dyspnoea usually came on at evening, although occasionally it would appear in the morning. Its common duration was an hour, or a little longer; and on the day following, his respiration would be perfectly free and unembarrassed.

He continued subject to these attacks, to within about eleven months preceding his application to me. At this period they suddenly assumed a different character. He was seized between five and six o'clock one morning, almost instantaneously, with a sense of violent constriction in the thorax, and serious obstruction to respiration, which constrained him at once to assume the erect position. At times, the pain would be so intense, and the difficulty of breathing so great, that he would sit down with his legs lifted up,

and his body pressed down towards the thighs, so as to describe a curve, in order to neutralize convulsive efforts of the respiratory muscles.

Since the last-mentioned date, these paroxysms returned at intervals of eight or nine days, but never exceeding the latter. They were accompanied by severe head-ache, general prostration of strength, and when very intense by fever, each exacerbation of which was attended by chills. These fits usually commenced about the same hour in the morning, and lasted an hour, or an hour and a half, terminating, after repeated coughing, in the expectoration of clots of a viscid mucus, with dark-coloured striæ, and at times, yet rarely, tinged with blood. The cough was most violent on first awakening in the morning, on motion, or after taking food; and in such cases, was only relieved by the rejection of a white, ropy matter from the stomach. The day preceding the paroxysm, its approach was ushered in by unusual cheerfulness, and sense of better health than ordinary: these symptoms were accompanied by a sensation of fulness in the epigastrium.

The phenomena of respiration, discoverable by auscultative examination, and as noted at the time, were as follow:—

“ At times, the murmur of respiration is temporarily perceived in some portion of the lungs, particularly towards their base ; and it varies its sound, being more or less audible, through the diminution, or increase of sputa in the air-passages. In the expiration, the respiratory murmur is loud and prolonged, as in cases of vesicular emphysema : in fact, this last mentioned condition is the never failing consequence of any protracted catarrhal affection. As the act of inspiration commences, the ear can detect the sonorous *râle*, resembling the cooing of a dove, as the respiration proceeds this sound is blended with mucous rattle, and as it draws towards its completion, this, in its turn, is merged in the sibilant. Bronchophenism is detected in more than one point of the lower lobes, indicative of bronchial dilatation ; and from the gurgling sound emitted from such parts, I entertain little doubt that the dilatation is considerable.”

Although I have no reason to believe that the patient was ever in danger of becoming phthisical, yet, from the great emaciation he exhibited, and from the expectoration of singularly fetid matter of a greenish hue, it was at one time supposed that he was actually labouring under consumption. This mistake I have found to be of

no uncommon occurrence, from the apparent similarity of the symptoms displayed by this disease, and pulmonary phthisis; but auscultation will at once enable the practitioner to detect the difference.

To enter upon the treatment of this case, after the directions I have already given for the practice to be followed in chronic mucous catarrh, is unnecessary. Besides, in the present instance, I must candidly confess, that the patient was more indebted to circumstances than to myself. An opportunity offered for his taking a summer voyage up the Mediterranean. I advised him at once to accept it; and nature did her work better than art. He returned, at the end of five months, cured.

Although a strenuous opponent, both on scientific principles, and from sad experience, to the removal of consumptive patients to warmer climes, in which they, for the most part, find a grave; yet, in this, as well as in the pituitous variety of catarrh, such a change may be productive of benefit.

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CASE OF DRY CATARRH, COMPLICATED WITH  
ASTHMA.

I have selected the following out of a number

M M

of cases I have registered by me, chiefly from the plain and straightforward way in which the patient has himself detailed it.

“ \* \* \* I was first seized with an affection of the breath after running very quickly for about half a mile, in order to be in time to send a parcel by the Liverpool coach. Being much heated, I incautiously drank nearly a pint of porter. I experienced no inconvenience at the time ; but the next day I had a pain in the back, like lumbago. The day following, cough came on. This increased daily, until about the fifth or sixth day, when the wheezing and difficulty of breathing were so great at night, that I could scarcely lie down. I sent for a medical gentleman, who bled me in the arm, and gave me medicine to be taken every four hours. I continued in the same state for a week, when a blister was ordered, and medicine, as before, but without any benefit. The next week I had another blister put on, and kept it on for several days, the discharge being very great ; and at the end of this, the fourth week, I left off medicine altogether, feeling that I began to mend rapidly.

“ This first attack was in the month of September. I continued well during the following winter and summer ; but about the same period

at which I had experienced my first attack, I felt the wheezing come on to such a degree, that I was obliged to call in the same gentleman. He treated me in the same manner as at first; and after about three weeks, or a month, I got better as before. The third year I was attacked just at the same period, and in a similar manner. I objected to bleeding, which was at first proposed, since I had derived very little benefit from it the preceding year, and it brought on such weakness. I was blistered, and had leeches applied to me; besides a bottle of medicine daily for three weeks. I did not mend much: the wheezing and difficulty of breathing continued; and I made up my mind to leave off the medicine, although I remained so ill. About a fortnight after, my wheezing left me all at once. I have now suffered ten winters altogether."

Thus far the patient. But on questioning him closely I found that, in addition to the symptoms noted above, he had been occasionally subject, sometimes on the subsidence of the attack, at others in the midst of a long intermission, to scanty expectoration. This would likewise come on from what he termed catching cold in the head. About the sixth year from the first manifestation of the asthmatic complaint, he had



been induced, at the solicitation of a brother in the East Indies, to go out and join him. During two years that he continued there, he had lost not only his asthmatic attacks, but every vestige of unnatural secretion from his chest. He remained thus exempt for a year after his return; and it was not until an advanced period in the fourth year from the apparent cessation of the disease, that his old complaint returned. Eating heartily of a fish supper, according to the patient's supposition, brought it on. In the middle of the night, he was seized with the severest paroxysm he had ever experienced; and which continued, with hardly any abatement, for forty-eight hours. The medical adviser he called in deemed it necessary to abstract blood; and this was attended with salutary effects. After several attacks, which were unaccompanied by expectoration, he at length, on one occasion, expectorated a wine-glass full of mucus as black as ink: this was followed by a sense of heat in the centre of the chest. He kept this fluid by him for full three weeks, when it grew a little lighter in colour.

It would appear that this unusual secretion formed a sort of crisis in his complaint, since after<sup>d</sup> it he lost his paroxysmal dyspnoea; but he con-

tinued subject to difficulty of breathing on ascending any eminence, or using rapid motion immediately on leaving his house. After a gentle walk for some time, however, he could accelerate his pace, and use considerable pedestrian exertion without experiencing any labour in his respiration. While thus, comparatively speaking, free from his complaint, I saw him, at intervals, during a period of eighteen months, or thereabouts ; and used, on such occasions, to examine the state of his chest.

On exploring the physical signs, there was no absence of respiratory murmur indicated in any portion of the lungs, although it was far from distinct, and blended with a rough sound ; nor did percussion, previously employed, elicit any unnatural sound. He had likewise a slight sonorous wheezing in the expiration. When the wind changed to the east, or north-east quarter, his breathing became immediately embarrassed ; and even, when in bed, he was sensible of the alteration. In like manner, when travelling, he could at once tell whether any great difference had taken place in the level of the road he was on, by the peculiar impression conveyed to his lungs, when the elevation was increased.

Towards the spring, the application of leeches, and exhibition of medicine, having removed the congested state of the bronchial mucous surface, and finding his breathing to all appearance perfectly unembarrassed, he was anxious to be allowed to repair to the sea-side for the pleasure of bathing, and likewise from the report of an asthmatic friend who had derived great benefit from the cold-bath. Since, on renewed exploration the bronchial obstruction had disappeared, since his digestive functions were carried on in a healthy manner, and there was an equable warmth pervading the body throughout, I consented, as the summer set in warm, to permit a conditional trial of immersion in the open sea. He was positively enjoined to discontinue bathing, should he experience the slightest catarrhal uneasiness; and I particularly impressed upon his mind the necessity of taking but one plunge, and not indulging by prolonging his bath. He was recommended to try it at first twice, but on no account to exceed three times a week. He remained by the sea-side about two months, and returned much benefited by the excursion. I saw him two or three times subsequently to this, and ascertained that he went through the suc-

ceeding winter without any recurrence of his complaint.

It very seldom happens, that after the asthmatic diathesis has continued so long, perfect recovery takes place. I have already alluded to the seemingly critical nature of the secretion which altered the character, and was succeeded by abatement of the severity, of his complaint. The occurrence is singularly unusual ; and in the whole course of my practice, I have met with but one case presenting a similar instance.

This discharge, in all probability, had its origin from some enlargement, or other morbid state of the bronchial glands, at the roots of the lungs.

The above three cases have been subjoined to my remarks on the catarrhal varieties of asthma, in conformity with the plan of the work, which the reader will find previously noticed.



# ASTHMA

COMPLICATED WITH ORGANIC LESIONS OF THE

HEART AND LARGE VESSELS.

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AMONG the numerous advantages derived from the discovery of Auscultation, as a means of distinguishing the causes of disease, may be classed the power it has given of ascertaining the dependance of asthma on any lesion of the great organ of circulation. The existence of such complications was previously of difficult and doubtful recognition: yet few are more frequent, none more distressing.

The improved methods of diagnosis have indeed removed that obscurity, under which disease of the heart, at no very long period, was veiled from the knowledge of the practitioner. By conjoining the physical signs of auscultation, and per-

cussion, with the general signs now so much better known, and more accurately developed through the aid of the former, the lesions of this organ may be detected even in their earliest stage; and thus, when they cannot be cured, they may at least be so effectually checked, and counteracted, as oftentimes to prevent all fatal consequences.

There can no longer be any excuse for the mistakes, which were once so frequent, of pronouncing the liver, or the stomach, to be the seat of derangement, when, in point of fact, the chest alone was affected; nor on the contrary can diseases of the heart be any longer mistaken for complaints purely dropsical, or asthmatic.

The order of causation in the two diseases is by no means regular. Generally speaking, the asthma precedes the organic affection; but although commonly precursory, it is at times consecutive. The intimate connection betwixt the lungs and the heart, and the close anatomical, and physiological relation, between the nerves supplying both organs, exert a powerful reciprocating influence. Thus disease of any part of the respiratory nerves, will readily affect any order of the nerves appertaining to the heart, that may be connected with it; and functional de-

rangement of these will, of course, as speedily extend to the former.

Hence, asthma, thus complicated, may simulate any of the varieties of the disease, whether catarrhal, dry, or humid; or, more strictly speaking, asthma of every species may degenerate into pseudo-asthma by becoming complicated with organic lesions, whether of the heart, or of the large vessels.

It must be obvious, even to the unprofessional reader, that scarcely any organ appertaining to the human frame is so liable to disorder, both from physical and mental causes, as the heart. From the throb of childhood, to the last feeble pulsation which links time with eternity, what a countless series of impressions does this organ, at once passive and active,—the seat of sympathy, no less than the fount of energy,—undergo. To it may be applied the words of the poet,

“ *Injuria,*  
*Suspiciones, inimicitia, inducia,*  
*Bellum, pax rursum,*”

for through each of these states does the heart pass, times innumerable, in the course of one brief life.



The idiom of every language frames its strongest phrases on the part that "doing, or suffering," this mysterious agent acts in our microcosm. "I am glad of it, with all my heart," is a simple expression, but full of meaning, and capable of no addition—it is the superlative of content; whilst the homely phrase, "I am sick at heart," conveys the utmost of human desolation.

If, then, mental causes accelerate, retard, heighten—even to their apprehension by the ear—and arrest, finally arrest the beatings of this, the main-spring of life; no less, in its turn, does it influence the functions of the remainder of the system. The stream which bounds through every artery, and gently courses, distributing its genial influence through every vein, is propelled by its inherent power; but let the slightest injury be done to this life-dispensing machine, and the whole fabric feels the shock.

The symptoms exhibited by the patient, who labours under asthma, arising from disease of the heart, are, generally speaking, those observed in the sufferer from the idiopathic form, but much exaggerated. They differ in degree, rather than in kind. The one is pain, the other agony. Violent exertion, or the action of ascending,

usually calls forth the first indications of the existence of the disease. A sudden difficulty of breathing, seeming to threaten suffocation, commonly accompanied by palpitations, and disappearing as suddenly, announces the existence of the lesion. These attacks are repeated, and after recurring several times fresh symptoms appear, and are not long in bringing on the worst stage of the disease. The mind begins to be affected by the deranged functions of the body. A depression of spirits, and prostration of the moral energies, amounting, at times, to melancholy madness, attest the "corruption mining all within." Dreams of the most frightful character invade the domain of sleep. Convulsive starts refuse any long continuance of rest. The countenance becomes a sure, but fearful index of the racking nature of the disease. Its volume is enlarged, and its colour, in general, a dark purple, or violet hue. At times, its usual bloatedness is rendered more marked by a ghastly pallor; but whether suffused, or pale, the general decomposition of the features gives that peculiar expression or "*facies propria*," which at once characterizes the disease. The horizontal posture is now impossible. Night and day will the sufferer remain for weeks, and months, sometimes snatching an

uneasy slumber, with the body slightly recumbent; but usually leaning forward, the knees brought near to the chest, so that the abdomen rests upon the thighs. The alteration in the face increases. The lips swell, and turn black; the eyes are often hid by the œdematous swelling of the lids, and the features are hardly recognizable. When the paroxysm puts the patient on the rack, his looks become maniacal. Each respiration convulses the frame. His eyes glare wildly, his nostrils expand, the anguish of the body is revealed by the horror of the face, and every convulsive gesture, and muttered word, betray the intolerable misery of the sufferer. The respite afforded either by exhausted nature sinking into occasional slumber, or the momentary cessation of the fit, serves but to arm its recurrence with redoubled terrors. Its approach is the signal for despair; reason wavers on her throne; and "Luce's iron crown, and Damien's bed of steel," would be a blissful exchange, for they would accelerate the tardy pace of death. At length, worn out by reiterated attacks, every power gives way; volition fails; the mere machine continues for some brief space its instinctive movements, and—all is still.

Were it possible to produce a correct clas-

sification of the causes of disease of the heart, I think it would be found that the largest class (in adults particularly) originated in moral ones. The next most prolific source of these direful maladies, would probably be a congenital disproportion of the parts of the heart. The influence of the passions on the great organ of circulation, has been already adverted to. Whatever either excites, or depresses, is equally injurious: and as the fatal effects of both excess of joy and of grief, when suddenly called forth, have been so often witnessed as to be beyond the reach of doubt; so the occurrence of permanent lesions, from the gradual influence of similar causes, can hardly be disputed.

The hereditary nature of these diseases has been long known; and many singular instances of the fact have been recorded by Lancisi, Morgagni, Corvisart, Testa, &c. Bertin has successfully disproved the supposition, so strongly expressed by Corvisart, of the influence of the syphilitic taint in valvular affections; and both Testa and Kreysig have laid a stress on the retrocession of cutaneous diseases, as a cause of cardiac lesions, which my own experience has taught me is not exaggerated. External and

accidental causes, as blows and falls; extraordinary muscular exertion in lifting heavy weights, or in personal struggles; and even too great, or prolonged exertion of the voice, will frequently produce extensive disorganization. The effects of sympathy, from derangement of other parts, are likewise very perceptible in this organ. All affections of the lungs, occasionally perhaps enlargement of the liver, with other obstructions of the abdominal viscera, or, in fact, any derangement of the stomach are common, and powerfully exciting causes of diseases of the heart. The connection betwixt the stomach and heart, by the medium of the par vagum, and the direct action of abdominal obstructions by interfering with the circulation of the large vessels in their vicinity, satisfactorily account for this train of causes. Last on the list may be mentioned the action of gout, rheumatism, and various other diseases of an acute and chronic nature, as no uncommon origin of lesions of the heart.

It must, however, be premised that asthma is by no means a certain consequence of such organic changes; indeed, these are no less frequently the results, than the causes of this disease. To produce the asthmatic diathesis there is required a certain state of the nervous system,

inducing a spasmodic contraction of some portion of the aerial passages, which can only be traced in its effects : it is impossible to recognize it antecedently, although no doubt can be entertained of its existence.

When the pulmonary engorgement is temporary, the cough is slight, and, for the most part, unaccompanied by expectoration. In such case, the fit subsides soon after nature, by determining to the surface, has relieved the engorgement of the heart, and large vessels. But when the congestion is permanent, the cough is violent ; and the viscid mucus, at first expectorated with difficulty, changes into a copious, thin secretion, frothy, and sometimes streaked with blood. Yet the relief thus afforded to the dyspnoea is slowly consummated ; and the paroxysms will at times last, with slight intermissions, for several days.

It is to be borne in mind, that in every disease of the heart obstruction is given to the course of the venous circulation ; and that from this general cedema, its usual consecutive, often arises. In the first place, whatever be the cardiac affection, the venæ cavæ will be congested. Hence, we can account for the occurrence of anasarca, by the undue retardation of blood in the veins preventing the free transmission of this fluid from the

arterial extremities, into their anastomosing veins. The lymphatic absorption is thus interfered with, and nature exerting herself to establish a balance between the three great branches of the circulatory system, throws off part of the redundant red, or arterial blood, by means of the exhaling orifices of the arteries. What is thus discharged is serum, and through this effort commences general dropsy.

Among a variety of causes which I might mention I shall particularize three, through whose influence the asthmatic complication may be induced by cardiac disease. The first of these, is congestion of the mucous surface of the aerian passages, exciting its fibrous structure to undue contraction. This will inevitably ensue from the impediment thus created, to the free return of the blood from the bronchial arteries, into their receiving veins, as the superior cava, the vena azygos, &c. Hence will arise some catarrhal complaint; or, if the patient have the nervous idiosyncrasy predisposing to it—asthma.

A second cause may be stated as follows:—Any circumstance calling forth increased energy of the right ventricle of the heart, will produce pulmonary engorgement. The celerity and force with which the blood is propelled into the

lungs, will likewise communicate a degree of irritation to the air-cells, as well as by sympathy to the mucous surface of the bronchial tubes. Again, should there exist any lesion in the left side of the heart, as, for example, auriculo-ventricular contraction, or some diseased state of the semi-lunar valves, &c.; the return of blood through the pulmonary veins will also be impeded, and congestion of the lungs occur affecting the respiratory surfaces in a manner, similar in its results, to those of the foregoing presupposed condition. A lesion on this side, will also tend to produce organic derangement of the other. The right ventricle stimulated to strong efforts, in order to overcome the resistance offered by the congested state of the left side of the heart, to the return of the arterialized blood from the lungs, will, through its increased action, become in process of time hypertrophied; and arterial and venous congestion will, at the same time, concur to exasperate, and call into undue activity the respiratory functions.

A third cause may be aneurism of the arch of the aorta, encroaching on the area of the trachea, impeding both the admission of air into the chest, as well as its egress, and thus giving rise to an emphysematous state of the lungs, with all the symptoms of asthma. The irritation ex-



cited in the mucous surface of the trachea by the external pressure of such a tumour, is often extended to the ramifications of the bronchi, and productive of catarrhal disease, and in some instances of genuine asthmatic respiration. Except in its incipient stage, the practised auscultator will generally be able to detect any complication of this nature.

The above is a slight sketch of the mode in which cardiac disease, by interfering with the circulatory functions, at length produces the catarrhal, or asthmatic complications. To enumerate all the various lesions to which the great organ of circulation is subject, and to enter upon a description of the peculiar agencies of each, would require a separate volume. It is incumbent in a general view of any subject to allot a due proportion to each of the parts into which it is divided; and sufficient, it is hoped, has been said to give an insight into the nature of the disease forming the present division of my subject.

The chief considerations in the treatment of Cardiac Asthma, are the diminution of the too active state of the circulation; and the abatement of any inflammation, chronic or otherwise. Of course, I am now speaking of the early stage of disease of the heart, since hope of

arresting it is to be entertained at this period only. When the measures necessary to arrest its progress have been neglected, and dilatation, hypertrophy, or other serious organic change has long existed, the utmost that can be looked for is to afford temporary relief to the sufferer. It is, too often, impossible to detect the causes operating to effect the lesion, previously to its formation ; and hence, it is only when established that we can, in general, begin to palliate the evil. Taken early, however, its progress can be arrested, and its consequences so much mitigated, as to ensure, so far as the lesion is concerned, the prolongation of existence for years. Generally speaking, temperance in diet, with occasional abstraction of blood, when judiciously modified according to the temperament, and age of the patient, will render the disease, comparatively speaking, inert. The intermission is the period, in this, as in every species of asthma, to which the practitioner should especially devote his attention ; since it cannot be too often inculcated that his chief object should be to divert the recurrence of the attack, and thus prevent the establishment of the asthmatic diathesis.

The principal object in disease of the heart being to diminish the irritation occasioned by

over activity of the circulatory functions, general bleeding takes the lead in the treatment to be pursued. Yet the local abstraction of blood is, in many instances, to be preferred; even without the previous use of the former.

The treatment first laid down by Valsalva, or more strictly speaking, first practised by him, and since advocated by Laennec, is much too violent, and undistinguishing. It will indisputably at times cure; but then it will much more frequently kill. Inordinate depletion, and rigid abstinence, form the groundwork of this unsparing method. We are told that even when "anasarca, œdema of the lungs, and a general cachectic state of the system are present, we are, nevertheless, unhesitatingly to pursue the plan of bleeding and starvation." When so great a man as Laennec could fall into so signal an error, well may it excite wonder to find writers quoting, with blind reverence, as their authority for absurdities, names, which, in comparison with his, are as a rushlight to the sun, and which indeed are unknown beyond the "narrow precincts of our isle."

Such a system, rigorously pursued, would occasion, supposing them not to exist, the very evils it seeks to remedy. The lowering of the

vital energies to such excess, will not only accelerate the circulation, by the demand it makes upon the system to supply the place of the abstracted blood, but will interfere with the due processes of nature in many important respects. Inordinate depletions raise the pulse, stimulate the arteries even to much throbbing, and produce palpitation and re-action of the heart ; whilst unassimilated materials are unduly taken up to supply the deficiency of the circulation.

The direction given to Phaeton will be the best guide to the physician, "*Medio tutissimus ibis.*" When the patient is robust, plethoric, the disease aggravated, and neither age nor other circumstances forbid, the treatment must be vigorous, and strict, but seldom, or ever, severe.

Moderate venesection, and if indicated by local pains, the occasional employment of leeches, as associated with the use of purgatives, sedatives, &c., judiciously resorted to in the intermissions, whenever dyspnoea comes on, and as circumstances may require, will ward off the paroxysms for an indefinite period, and keep the lesion long stationary.

As a means of procuring temporary relief, the derivative method of Morgagni, which consists in the use of warm pediluvia, and maniluvia, and

in employing whatever can solicit the blood from the heart into the extremities, will often prove highly serviceable. To soothe, by every expedient, mental and physical, is too often the utmost to which the medical man can aspire ; yet, whenever he effects this, his labour surely is not in vain.

I have already treated, at some length, on the influence of derangement of the stomach on the respiratory organs ; and the same close connection, by means of the nervous medium, exists between the heart, and the gastric system: Derangement of the latter is no infrequent cause of cardiac disease ; and when it is not the cause, it is often co-existent, and tends to exasperate every symptom. I would, therefore, recommend, in some instances, the closest attention to be paid to the digestive functions, before even the heart itself is made the object of any direct remedial measures.

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**PURGATIVES.**—Not a few instances have come under my notice, of the ill effects arising from too copious purgation in disease of the heart. From the venous congestion co-existing with it, there results a degree of torpidity in the intestinal canal,

to remove which the practitioner is often induced to exhibit drastic purgatives. The chief object to be held in view, in administering this class of medicines, is the removal of whatever fecal contents may require dejection; and to stimulate the bowels so as to bring about the due vermicular action. Another advantage derivable from the operation of purgatives, is their power of expelling that state of flatus which is the ordinary concomitant of asthmatic complications. The proper administration of opening medicine will indeed be indicated by the state of the patient, as sthenic, or the reverse. In the former case, the abstraction of blood should precede the exhibition of purgatives. This practice is especially to be observed in the event of any dropsical combination. I have seen, in such cases, infinite harm ensue from the eagerness of the physician to remove the anasarca by copious watery evacuations. This eagerness seldom fails to defeat itself, and to exasperate the evil it would remedy. Venesection to a moderate extent will be less debilitating to a patient, affected with dropsy, than the operation of active cathartics.

In dilatation of the heart, watery evacuations will often aggravate the complaint: and as this is

a lesion at times found in connection with cases of hysteria, chlorosis, &c. every thing tending to debilitate should be sedulously avoided. In acute diseases, and when inflammation runs high, the free use of laxatives will be highly expedient; and, in conjunction with abstraction of blood, should ever be resorted to. But, in chronic disease, the contrary holds good. In this case, too great a reliance on evacnants is unwise; since, when not duly regulated, and kept within bounds, they are permanently weakening in their effects. I am, generally speaking, inclined to eschew mercurials, in every complication of cardiac disease. They possess stimulant properties which render their exhibition in these disorders very questionable; for whenever the heart is concerned the main object should be to calm, and consequently to avoid every thing that may tend to irritate or excite.

A mild, and useful hydragogue laxative, for general use, may be composed as follows:—half an ounce of supertartrate of potash, or cream of tartar, the same quantity of lenitive electuary, and a drachm of jalap powder, to be well triturated in a mortar, and then to be formed into an electuary with syrup of squill, adding to it a few

drops of oil of peppermint. Of this a tea-spoonful; or more, may be occasionally taken, as circumstances indicate.

A mild aperient, which, should the case require it, may be advantageously employed for a considerable period, without any danger of distressing the patient, may be formed of the crystals of tartar, combined with precipitated sulphur. This compound is very gentle in its operation, and while it excites the kidneys, it at the same time promotes healthy diaphoresis.

Drastic purgatives, as colocynth, scammony, black hellebore, elaterium, gamboge, &c., are occasionally administered in various hydropic complications. It is almost unnecessary to point out what injurious effects have often ensued from such a course, before cardiac asthma, with which dropsy is not infrequently found conjoined, had received the light of modern investigation. What has been advanced, with respect to undue depletion, is strictly applicable to immoderate purgation. It often ultimately increases instead of diminishing the evils sought to be remedied.

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**DIURETICS.**—This class of medicines presents the means of relieving embarrassment of the cir-



culatation, without the debilitating results to be apprehended from cathartics. The relief too afforded the patient, through the medium of the renal emunctories, possesses the additional advantage of lessening the quantity, without abstracting from the quality of the blood. By discerning, in this way, the serous portion only of the vital fluid, diuretics, whilst they relieve congestion, do not much interfere with the constitutional strength. It is this double property which renders them, in many instances, of such safe and efficacious administration.

The mode in which diuretics act is various, and in the case of some drugs classed under this head, it has not been satisfactorily ascertained. Some affect the secreting urinary vessels through nervous communication between these and the stomach, as squills, which would appear to primarily excite this hollow viscus. Others, as the saline diuretics, exercise a direct influence on the kidneys; and others again, increase the fluid secreted by promoting absorption. This, indeed, is, in point of fact, indirectly promoted by every other class of diuretics.

When the venous system is in a state of plethora, it is in vain to look for any advantageous results from the administration of diuretics. Re-

course must, in such instances, be had to blood-letting; and when congestion has been thus relieved, the way will be open for the employment of urinary stimulants.

Some saline diuretics are, from their additional laxative qualities, especially indicated whenever pyrexial symptoms occur. They lessen all febrile excitement, and do not cause the weakness which follows the use of hydragogues. One of this class I have already mentioned under the head of purgatives, namely, the crystals of tartar.

Tartarized soda, tartrate of potash, acetate of potash, (this last salt may be more agreeably formed by extemporaneously decomposing the carbonate of potash by means of distilled vinegar, or one equally agreeable may be produced by the substitution of citric acid,) and nitre, which, according to Dr. Maclean, appears to promote the flow of urine by a direct specific action on the kidneys, are all cooling and valuable.

In every dropsical combination, diuretics are of course to be resorted to; and particularly when the urine, being high-coloured, and scanty, deposits an abundant sediment. In general, the stimulating diuretics should be avoided; and even when anasarca forms a predominant complication of the disease, the fluid ought not to be drawn

away too rapidly. It ought also to be recollected, that few medicines differ more in their effects than those of the present class. In fact, those commonly esteemed the most powerful, will frequently prove less efficient than the weaker diuretics.

By the introduction of the digitalis into general and systematic use, Dr. Withering has conferred a signal benefit on practice. The efforts of the physician have been highly aided, and consequently the patient has, at the same time, reaped much advantage. To ensure the full benefits derivable from this medicine, there are several states and circumstances requiring previous consideration; and by pointing out those conditions, under which its administration is unadvisable, the proper times for its use may be readily inferred. In all cases of much visceral derangement, depravation of the habit, or when there are febrile symptoms, and venous congestion is considerable, the digitalis is, for the most part, contra-indicated. Its producing a sense of tension in the head, with cerebral disturbance; the lowering of the pulse, or when its use is followed by vertigo, indistinct vision, diarrhæa, palpitations, faintness, cold sweats, and delirium, are also signals for its being discontinued. It has

been found most serviceable in those cases in which pallor of the countenance, weakness of the pulse, and diminution of muscular energy, exhibit well-marked debility.

Before proceeding to the administration of digitalis, it is necessary to consider under what form it is most advisable to exhibit it ; and when its use has been begun the physician should watch with lynx-eyed attention its effects on the circulation, the digestive tube, and the brain. Of the various preparations of the drug, the solution deserves the preference. It is inferior in strength to the dried leaf ; but its proportions can be more delicately graduated, and it becomes a readier vehicle for the combination of other medicines with it.

This last mentioned consideration is a point of much importance. Diuretics are, in general, infinitely more available when combined than when used singly. The same remark, it has already been shewn, is applicable to some other classes of medicine.

Since digitalis, as well as other active remedies, is apt occasionally to lie for a period dormant in the system, and then produce, by its accumulation, the most alarming effects, it is advisable to administer it in small doses, and at long intervals.

By duly attending to its operation on the patient, and regulating its employment according to the circumstances of age, sex, and bodily habit, digitalis, powerful as it is, may be employed with perfect security.

Especial caution, however, should be taken to check any effects this medicine may have on the bowels; since its action on them, when it does take place, is sudden, and in general violent.

It is not uncommon to find medical writers ordering a combination of some preparation of mercury, with digitalis, or other diuretics, in disease of the heart, but this is a practice to which I cannot subscribe; the stimulating qualities of this mineral must, in my opinion, tend to exasperate any cardiac lesion. For instance, on looking over a publication of no distant date, I observe calomel, combined with diuretics, ordered to be taken several times a day; a course which I must consider the reverse of scientific. However useful it may be in other visceral disease, whether chronic or acute, its employment, when the heart is the seat of affection, is ever to be deprecated. The raising of the pulse, and the febrile excitement its occasional concomitants, even when given in such doses as to be said to pass off freely,

contra-indicate its employment in every case of cardiac lesion. The digitalis acts as a sedative, and its general effect is to lessen the force of the circulation. To combine it, therefore, with a stimulant is to endeavour to reconcile contraries. Dr. Maclean asserts that he has known calomel considerably relieve, or check ossifications of the valves of the heart, if not entirely remove them ! Such an observation can only excite a smile.

It may be as well to admonish the patient, that whilst taking diuretics, he should be careful to keep the surface of the body moderately cool. The practitioner is aware that the urine is lessened, whenever the cutaneous exhalants are stimulated by heat ; but the non-professional individual, unless cautioned, is apt, from ignorance of the fact, to defeat the purposes of this class of medicines.

Squills form too important a medicine, from their very general use in dropsical complications, to be passed over in silence. Ancients and moderns have united in recommending them ; more especially when dyspnœic symptoms combine with anasarca. They are of very uncertain operation when used alone ; but, in combination with other medicines, the effect it is desired to produce can, in general, be calculated.

In cases of asthma, combined with hypertrophy of the heart, or dropsy, iodine may be tried, but cautiously. It is one of the most active agents on the absorbents as yet known, and is a direct diuretic as well. But when it induces those symptoms, previously mentioned as contra-indicating the further employment of the digitalis, it should be at once discontinued. Iodine ought never to be administered to persons of irritable habit ; and if it should excite perspiration, or griping, it ought to be immediately suspended. A milder form of this medicine is the hydriodate of potassa.

Dr. Cullen speaks slightly of the power of vegetable diuretics ; although he particularizes digitalis in his catalogue. The efficacy of this class of medicines is so dependent on the physical state and idiosyncrasy of the patient, that it is often impossible to pronounce definitively on their respective powers. After the fox-glove and squills, the colchicum autumnale, or meadow-saffron, the common broom, juniper, and dandelion seem most to deserve specification.

The best reason I can give for treating at such length on these medicines, has been already so well expressed by Baglivi, that I shall borrow his words, "*pluries adnotavimus, in pectoris*

*morbis, semper ducendum esse ad vias urinæ, natura id monstrante."*

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ANTI-SPASMODICS.—Opium, with its preparations, forms, in some instances, a useful auxiliary to both squills and digitalis. At times, it may be used as an anodyne; and at others, it will be found serviceable to stop the purging, which is occasionally produced by the action of those medicines.

In the exhibition of anti-spasmodics, the practitioner must be on his guard against the re-action, which, as in the case of copious blood-letting, will follow their too liberal use. It is only on the approach of a fit in the earlier stages of organic disease, that much benefit can be expected from this class of medicines; and, even then, sedatives are better in combination with other ingredients, than administered singly.

Anti-spasmodics are particularly available when there exist much general irritation, with suffocative orthopnoea, and a tendency to vomit. Should they procure a short slumber alone, the blessing is at such a period inestimable.

Having previously dwelt, at some length, both on narcotics, and anti-spasmodics, I shall con-



clude my observations on this head, by advising a trial, on failure of other medicines, of the carbonate of ammonia, or the spirit of ammonia, with its compounds. They may be given, at times, in junction with ether; and will often be found of service in quieting bronchial constriction, as well as other asthmatic symptoms.

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**TONICS.**—I have remarked, when speaking of the treatment to be pursued in the intermission of the nervous asthma, that there are states, in which the administration of tonics is imperative. The efficacy of this order of remedies is peculiarly visible in cases of dilatation, and softening of the heart; and some of the bitter tonics have proved most beneficial in dropsy, connected with such affections. I have alluded to the frequent co-existence of indigestion, both with asthma, and cardiac disease; and in such complications tonics are often of the first importance. Their remedial influence, however, depends greatly on the tact and knowledge of the prescriber. The irritation excited by an injudicious use of these medicines, in bronchial disease, has been previously pointed out; and when the circulatory system is over active, with hypertrophy,

they increase the organic evil. To prescribe them with effect, requires a thorough knowledge of the structural and functional changes, produced in the system by disease ; and their exhibition in the various species of asthma is a matter of great delicacy.

Steel medicines, (to the use of which in idiopathic asthma, I have expressed myself unfavourable,) are, generally speaking, the best tonics in those forms of cardiac asthma, which warrant their employment. A decided advantage, which they possess, is the gradual manner in which they operate. Imparting, by degrees, tone to the solids, and enriching the fluids, they gently restore the enfeebled powers of the animal economy. Of the different preparations of iron, the *ferrum tartarizatum* is one of the most valuable, from its combining diuretic with tonic qualities. It is most advantageously exhibited, conjunctly with bitters, or some aromatic. Laennec states that aromatics are very often serviceable, particularly the infusion of cat-mint (*nepeta cattaria*,) valerian, balm, and orange-flower. Since Corvisart mentions that he was occasionally in the habit of employing Bacher's tonic pills, his authority tempts me not to pass them over without notice. At one time they were held in high

esteem ; but they are now little known, and seldom used. I have had no experience of them, but should not be induced, from the ingredients of which they are composed, namely, myrrh, black hellebore, and carduus benedictus, to place much faith in their virtues.

The above distinguished physician speaks in high terms of a bitter and diuretic wine, prepared according to the formula of the Hospital of La Charité, into the composition of which entered Peruvian and Winter's bark, lemon-peel, angelica root, dried squills, wormwood, balm, and juniper berries, all infused in wine. There is no lack of number here. It is a medical olla podrida.

In those cases, in which irritability of the gastric system is present, the milder vegetable bitters, as infusion of camomile, of orange-peel, or of columba, are, at times, advisable. However, the best practice is to endeavour to remove derangement of the digestive organs, by directly relieving the more, or less, gorged state of the general venous system, to which their impaired condition is owing. Those physicians, who are accustomed to think for themselves, and to apply to nature as the great and only unerring teacher, are aware of the frequency of such congestions,

and their cause. The injected state of the capillary vessels of the stomach, and intestines, must be productive of important derangements of the action of these organs. It is essential, therefore, to restore them to healthy activity by general or local bleeding; and should this not suffice to bring them back to their natural functions, tonics may then be administered to correct any debility that may be left.

Corvisart mentions, among the various morbid appearances observed by him in those who died in consequence of disease of the heart, the high vascularity of the stomach. To such extent does this at times proceed, that, as he correctly states, the stomach will be nearly filled with sanguineous clots of a deep red colour, extending also throughout the small intestines. I am induced to dwell upon this phenomenon, with which indeed my pathological inquiries have long made me familiar, principally from its singular importance in forensic medicine; although it is of no slight moment on other accounts.

A very interesting trial occurred some years ago; the parties in which were the Rock Insurance Office, and the executors of a respectable banker. His death had been sudden; and on opening his body appearances were presented, which induced

the suspicion that the deceased had made away with himself. More than one hospital surgeon of eminence gave it as his opinion, that the individual in question had taken poison. Their authority would, in fact, have influenced the Jury, had not a young medical practitioner, a former pupil of mine, decided the point at issue by counter-evidence. It was, indeed, evident to the pathologist, from the detail of the circumstances, that the deceased had laboured under some obstruction to the circulation, whence arose the congested state, and discharge of blood, which had misled the other medical witnesses.

Now the phenomenon, which I have just mentioned, may be presented after death from another cause, which, however, produces precisely the same results as cardiac disease, namely, inflammation of the lungs. As an instance of this fact, I may adduce the *post mortem* examination of his late Majesty; and I recommend the considerations, I shall have to make on this subject to the especial notice of our honoured President, Sir Henry Hallford. If I am wrong, he will correct me; and he cannot have a more grateful or loyal opportunity, of making public these pathological inquiries to which doubtless his life has been unremittingly devoted.

From the report made after death, to which was appended the name of that truly eminent surgeon, Sir Astley Cooper, it would appear that this gentleman referred the phenomena, presented on dissection, to disease of the heart.

This opinion is undoubtedly correct. Disease of the heart did produce some aberrations from healthy structure therein noticed. But, through tenderness, I presume, for his Majesty's more immediate medical attendants, he omitted to mention, that the aggravated symptoms of this disease, which, as he truly observed, "had existed for many years," were secondary, not primary causes, of such morbid phenomena. Accordingly, the President, knowing that Sir Astley's name is "a tower of strength," gave out afterwards that cardiac disease was the "*hors malotum*." Yet, such being his opinion, it is extraordinary that he should not have remonstrated against his Majesty's frequent drives in Windsor forest, in the severest weather; previously to increased indisposition confining him to his apartment. He must, of course, have been aware of the pre-existence of his cardiac complaint; since although the President, I believe, does not employ auscultation, a careful exploration of their patient's chest, must doubtless

have been made by one, or other, of the remaining medical attendants. Still I do not find, from his diagnosis, (so far as this is to be gleaned from the bulletins,) that he had any suspicion of an affection of this organ, previously to death. The said bulletins were indeed most "ambiguous givings out;" and were characterized, at the time, by Mr. Brougham, (the late Chancellor,) in rather severe terms, and I forget the particular expressions of which he made use, but their tenor was, that so deceptive and unmeaning were those official documents, he defied any man to lay his hand upon a single passage from which the prospect of the event, deplored by the whole nation, could have been gained.

Supposing, however, that he did entertain the belief of his Majesty's labouring under some affection of the heart, I am totally at a loss to account for his apathy in permitting those repeated airings, of which the newspapers made at the time constant mention.

It is a fact, that on the sudden setting in of cold weather, numbers of elderly persons suddenly succumb to the manifestations of disease of the heart. This has long been observed in those establishments (at least I have noticed

it) in which the aged are congregated together, as at our noble institutions Greenwich, and Chelsea hospitals. The reason is very apparent. Cold at once constricts the cutaneous capillaries, and thus operating on the deep seated vessels occasions a congestion which the heart, called upon to exert fresh activity at a period when time, or disease, has enfeebled this vital organ, is unable to overcome. To use a technical illustration, an additional leverage is exerted, and the spring snaps.

Against the above account it may be objected, that dissection furnished evidence of cardiac lesion. The vascularity of the stomach, as I have already remarked, is no proof of the existence of disease of the heart; but what did exist had, doubtless, been called into activity by the unexpected inflammation of the lungs.

In fine, as no diagnosis was recorded, it is presumable that no diagnosis was made, at least none that had careful exploration of the chest, by auscultation and percussion, as its basis. The evils resulting from such omission, may be conjectured from the preceding remarks.

By way of corollary to the above, and as an example of how confined the knowledge of pathology is, or else of its difficult acquisition, I



may mention that about two years previously to the demise of his Majesty, I had had some preparations made, at a considerable expence, faithfully imitating the stomachs of persons who had died of the consequences of cardiac disease. These preparations were shewn by the modeller to some of the most eminent in the profession, and, in one case, to a gentleman who, he stated, was preparing to publish a work on the morbid appearances of the stomach in individuals destroyed by poison. They all pronounced the subjects, from whom the preparations were modelled, to have lost their lives by poison, or some acrid substance taken into the stomach.

In the report of the autopsy, on the body of his Majesty, it is stated that the immediate cause of his death was the rupture of a blood-vessel in his stomach. To this I can give no credence. The effusion was, I make no doubt, poured forth from the mucous-villous coat of the stomach. It is generally supposed that the *vasa brevia* supply a channel for sanguineous congestions by the communication they furnish with the splenic end of the stomach; but in addition to this passage, I believe the vascular pores of this organ itself must facilitate the escape of effusion. This, however, is contrary to the opi-

nion of Corvisart, who supposes that the liver unloads itself of its accumulated blood, through the intervention of the hepatic arteries and veins, and the pori biliarii, into the hepatic duct, and that the fluid conveyed by this means into the beginning of the duodenum, may, in part, flow back into the stomach. Now, frequently as I have examined the hepatic duct, both before and since my acquaintance with Corvisart's work, I have never been able to detect the presence of any sanguineous collection there.

The course of the disorder which terminated his Majesty's life seems to me briefly this; and I ground my opinions on the few hints to be gleaned from the President's bulletins; and the details of the examination after death. Cold, I conceive, induced inflammation of the lungs, which was latent, but could have been readily discovered by an experienced auscultator. The absence of cough, till within a few days preceding his demise, by no means invalidates the above supposition, as experience has fully shewn me; and the difficulty of breathing, so often mentioned in the bulletins, tends to confirm it.

Consecutive hydrothorax first occurred in the left side of the chest (between two and three quarts of water were found after death) and the

compression of the lungs, produced by this effusion, might, in some degree, mask to the inexperienced, the auscultative signs of pneumonia. Had bleeding been seasonably employed, effusion could not have well occurred ; and, as a proof of the inestimable value of auscultation, I must beg especial attention to the fact that venesection, critically applied, might not only have prevented the deposition of water in the chest, but had it been again resorted to at fitting periods, it would have obviated the sanguineous effusion from the stomach. This latter, indeed, arose from the general venous congestion brought on by the compression of the lungs just noticed.

In the outset of this digression, I have taken the liberty of calling Sir Henry's attention to it. Although, conjecturing from the "*aniles fabellas*," or short essays he has published on medical subjects, I am fearful that these are details which possess little attraction for him. In one of his prolusions, at the *conversazioni* if I mistake not held at the College of Physicians, he speaks of individuals' having suffered from palsy of the kidneys. This is so extraordinary, that one would suppose the curiosity of the learned President would have led him to examine these organs, in order to satisfy himself whether, or

not, they had undergone any change of structure. Cuvier remarks, that it is the privilege of genius to see, in its dreams, what the humbler race of men can ascertain by laborious vigils, and accumulated researches alone. Far be it from me to say, that this panegyric is not applicable to Sir H. H. Doubtless he knew, without examination, the morbid condition, as well as functional derangement, of these poor palsied kidneys. It would, however, have been kind in him, to have stated them for the benefit of individuals less favoured by nature.

Before dilating further on the President's multifarious endowments, it behoves me to apologize for having, although I trust in no irreverent spirit, invoked the manes of royalty; yet, I am but following, although at immeasurable distance, "*non passibus æquis*," the steps of the President himself. It is his delight, and I humbly hope the delight of his auditory likewise, to dwell upon the "last, long, lingering" scenes of royalty. Seldom does one of those evening parties occur, at which science, tea, and coffee, hold divided empire, but he favours his hearers with an account of the patience and resignation of those illustrious personages, who have died under his hands.

How far the interests of medicine may be advanced by these reunions, at which the courtly President delivers his popular harangues, it becomes not me to decide. Judging from what have already appeared in print, I should conclude that I am no very serious loser by my absence from these high solemnities. I cannot, indeed, conceive how any scientific advantages can possibly accrue from meetings, at which are assembled "thrones, dominations, principedoms; virtues, powers," at which, in short, a number of individuals profoundly ignorant of medicine, in company with those who by virtue of their diplomas do, I should conjecture, know something of the matter, congregate to listen to some popular essay on the gout, insanity, &c., or observations on the charms of a death-bed under the auspices of Sir H. Hallford. Such meetings may tend to introduce some half-dozen sucking favorites of the Galenical Sultan's to promising patients, and gratify personal vanity at the same time. The non-professional hearer will take oratorical common-places for the dicta of an Hippocrates, and the initiated will be wiser than to gainsay his *εὐα ντε πορτα*.

But seriously speaking, is this a state of things which can, or ought to exist? Was the College of Physicians founded for no higher purpose, than

thus furnish forth an evening's entertainment? Properly directed, it might become the central point around which the real talent of the kingdom might be collected. Bestowing countenance and protection on the young and zealous, and amending the depository of every fresh accession of knowledge gained by the experienced; it might rise higher than personal views, and by enlarging the sphere of science, lessen the ills of humanity. But to effect this, or any thing approximating to it, the high places, with the images of Baal, must be overthrown. Wealth, and fortuitous success, must no longer give a patent right to the office of President. Fair, and open competition, should here, as on the continent, give the highest seat to the worthiest. The man, who has at his disposal the most valuable situations in the school of the profession, should have medical knowledge, and the integrity to direct his choice.

It is fairly to be said, that when I regard the men, pre-  
 eminent in skill, and therefore, therefore, also pre-  
 eminent in rank, who adorn the profession abroad, I feel not a little ashamed of the figure we make at home. The estimability of private character cannot compensate for the want of distinguished professional reputation, in the nominal heads of the medical schools of this country.

Surely the ephemeral sheets, published by Sir Henry, could not, by his most obliged partizan, be compared, without a blush, with the masterly productions—translations of which form the richest part of our medical libraries. Did I know one offering laid on the shrine of science by the President, I would willingly give him the credit due. I attack not the man, but the system, which imposes the man upon us. When I am informed of any one discovery, in either the theory, or the practice of medicine, first communicated to the world by Sir Henry, I will proclaim him—a better man than many of his predecessors in the chair. Yet let me not be too precipitate in my judgment. His present publication may be merely the forerunner of some great posthumous work, which may call forth our regrets when its author is no more. The boon denied us now may be vouchsafed to posterity; and future generations may hail, with reverence, that name by which at present

*“Derisor vero plus laudatore movetur.”*

Many remedial agents might be named, in addition to those already noticed. Derivatives, as sinapisms to the extremities, with vesicatories,

and rubefacients; gentle emetics, &c. may be occasionally tried, as the symptoms indicate. I have already treated so fully on the various classes of medicine most serviceable in asthma, and its other complications, that to enter upon their properties and effects here would be to fall into unavoidable repetition. The rules, for diet, laid down under the head of Nervous Asthma, may be consulted with advantage as respects the cardiac variety; and, in conjunction with what I have previously said in my general observations on disease of the heart, will supply the most important rules for the dietetic treatment. Abstemiousness in food, rigid renunciation of stimulating liquors, and, above all, peace of mind, are indispensable to ensure the chances of recovery in all affections of the heart. It is in these that the physician must add to the routine of his art, the higher offices of the philosopher, and the Christian. Without a knowledge of the world, and the workings of the human bosom, he will be incompetent to counsel; without that faith, which alone "makes wise unto salvation," he will be unable to soothe, strengthen, and console; and he who has not those qualifications which enable him to become the moral teacher and the friend, may, in the majority of these diseases, as



well "throw physic to the 'dogs" as prescribe for the body when it is the vassal of the mind.

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CASE OF ASTHMA, COMPLICATED WITH DISEASE  
OF THE HEART.

The Honourable Mr. H., aged 22, first came under my care about three years ago. He had been a sufferer from occasional fits of spasmodic breathing for some period; and since they increased in intensity, there was an apprehension that the asthmatic diathesis would be confirmed in him. He was tall, and apparently well made: and had been attended by the medical advisers usually employed at the great public school he had recently left, without the slightest suspicion on their part of the existence of any mal-formation. On examining his chest, I was immediately struck with the disparity exhibited by its two sides. The left was so contracted, that there was a difference of fully two inches betwixt it and the right. I was unable to ascertain whether he had ever had any pleuritic affection of this side; but I am strongly inclined to believe that some effusion must have taken place there; and that this, after having been de-

posited for a variable time, was at length removed, through the power of absorption.

If this surmise be correct, the lung of the same side must have undergone compression; and when the obstacle to its due expansion had been removed, it would, through the effects of long pressure, be incapable of resuming its natural size. The other lung, as is generally the case, when the functions of its fellow lung are interfered with, was voluminous; and this was indeed evident to the eye by the rounded figure of the right side.

Percussion yielded, on the opposite side, a dull, and, in part, a fleshy sound, more particularly on the lower, and lateral parts. The respiratory sound in the same parts was extremely indistinct; and over the remaining region of the affected side, weaker than natural. The bony compages of this side of the chest too were contracted exactly in the same manner as is observable in pleuritic cases, in which the walls of the chest follow the retrocession of the soft parts, as the effusion is absorbed. From the above physical signs, conjoined with the pathological experience I have had in this disease, I might almost pronounce definitively on the pre-existence of some pleuritic affection. The practised physician is aware how

extremely variable are the symptoms of this disease, how furtive its progress; that the pain arising from it is so immaterial as scarcely to arrest the attention of the patient; and that, generally speaking, few disorders so well deserve the name of latent.

Owing to the undue enlargement of the right lung, as well as a to degree of bronchial irritation, the spasmodic breathing, from the acuter attacks of which the patient was beginning to suffer, had been, perhaps, produced. The heart was partially displaced through the voluminous condition of this lung; and this partial obliquity had given rise to hypertrophy, conjoined with dilatation of both ventricles. These states, of course, arose from the obstruction thus caused to the free passage of the blood into the pulmonary artery, as well as the aorta. They were fully indicated by auscultation. The contractions of the ventricle on the left side, and its strong impulse, were distinctly recognizable between the fifth and seventh ribs, instead of between their cartilages. On the right side, the impulse of the ventricle was more perceptible towards the left of the inferior part of the sternum than is usual. Indeed, from the obliquity of the heart, he was affected nearly in the same manner as a

person labouring under congenital narrowness of the aorta, and pulmonary artery. In consequence of this state, there would be, I need hardly observe, congestion in the lungs, as well as in the right side of the heart, and its venous trunks. From the nature of the impulse, I am of opinion, that the heart had acquired, at its apex, an unusually rounded form. I must also mention that the sound given out by the auricles was very sonorous, and that the action of the heart altogether was perceptible over a much more extensive space than natural: pulsation being even heard in the posterior part of the right side of the chest. Sub-lividity of the face, and coldness of the extremities, were occasionally manifested.

The patient explained to me that he could in general predict an attack from his feelings the evening preceding a seizure: although they did not amount to absolute oppression. When attained by this undefinable sensation, he usually retires to bed with a full presentiment of the impending evil. About four or five the following morning, he is awaked by the ingress of the fit. This usually lasts two or three hours; and on its subsidence he falls asleep. The symptoms on his re-awaking vary. At times, he is enabled to rise without any trace of the disease remaining.

At others, a recurrence of the attack will take place ; while at others again, he will suffer the remainder of the day from the same dull head-ache, and sense of stupor, which are left by fearful dreams, or attacks of night-mare. During the continuance of the fit all inclination to eat entirely deserts him ; although one of the symptoms, when first he became subject to these attacks, was, to use his own phrase, a furious appetite. The character of his attacks, he states, is now much altered. At first they were very violent, but of short duration. They are, at present, much milder ; but will return for three or four successive nights. Bleeding he conceives to afford him the most relief ; sometimes emetics : and at all times he finds the passing of water, which is habitual to him in the course of an attack, productive of much ease. Occasionally considerable sickness, with violent retching, and a copious dark-coloured and bitter discharge will accompany the asthmatic paroxysm ; and at times a sense of extraordinary debility will be the accompaniment of an attack.

Whilst suffering, the symptoms discernible differ very little from those consequent on the pure form of asthma. The murmur of inspiration is weak, and in part suppressed throughout the

right lung ; and auscultation gives similar results over the summit of the left. In the remaining portion of the latter lung, the respiratory murmur, usually feeble, is somewhat augmented. The rale sibilant, or a clicking as of a small valve, is heard during a full inspiration, and at times during the expiration ; whilst, in the latter, that singular phenomenon, which I have described at page 260, is clearly defined in the right lung ; and obscurely indicated in the left.

When labouring under an attack this patient does not seek relief from the posture usually assumed by the asthmatic ; but maintains an erect position. The enlargement of the right lung compels him to this ; and again, were he to lean forward, the heart's action, already impeded, would be still further embarrassed.

I should observe that the portion of the chest, directly in front of the heart, projects, and exhibits an unusually strong impulse ; although as I have before explained, the left side, compared with the right, is considerably contracted. Indeed, this projection over the seat of the heart is generally met with in all cases of enlargement of that organ, when the patient is young.

At the period of life, at which my patient had arrived, when I first prescribed for him, that is,

just entering on manhood, there is usually a predisposition to fullness of habit, which permits moderate depletory measures, without risk of reducing the constitutional energy. I was thus enabled, after no very long period, to moderate the symptoms of his disease, by lessening the sanguineous fluid, and thus allow him to enter the University; the fear of the propriety of which step had first induced his relatives to consult me.

The predisposition to asthma, in the case of this gentleman, is, as it very commonly happens in dyspnoeic complaints complicated with cardiac disease, hereditary. There has thus been much to struggle against; but the vantage ground has been gained, and perseverance, on the patient's part, must effect the rest.

I have lately had the pleasure of receiving a letter from one of his nearest relatives, who writes of him as follows:—"I am thankful to say he appears to have realized your encouraging predictions, and to be outgrowing the tendency to irregular action of the heart. Still his health is far from strong; and he is liable to suffer from oppression of breathing, and the usual unpleasant train of symptoms, after any imprudence in diet, exposure to cold, or in damp weather."

# ASTHMA

## IN CONNECTION WITH HYSTERIA.

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It has already been seen, that the mind contributes largely in asthmatic disease, to the sufferings of the body. The passions of the mind are correlative to the corporeal feelings; and for every sensation undergone by the latter, there is a countless variety which may be suffered by the former. Both body and mind may be enfeebled in all their powers, or in one singly; and each operates reciprocally on the other.

In the variety of asthma I am now proceeding to consider, the connection betwixt the two is particularly marked; and more especially, perhaps, the influence of the body on the mind. Hysteria, in fact, may be regarded as a corporeal disease; while, on the contrary, hypochondrism, usually deemed identical, is chiefly dependent upon



the mind. This has induced many writers, and among others Mieg (*Epistolæ ad Hallerum Scriptæ*, No. V.) to treat the disorder under the two separate heads of *hysteria masculina* and *hysteria feminina*.

It is undoubtedly true that this disease, as its name imports, is closely connected with a morbid condition of the uterus, or, more correctly speaking, the *ύστέρα*. However, this is not invariably the case; but although the connection between the disease and this organ is not infrequently inappreciable, hysteria is ever, more or less, participant in some morbid state of the irritative fibres. It most commonly manifests itself betwixt the age of puberty and that of maturity, calculating the latter to be about the thirty-fifth year; and is thus incidental to the frame, when this is most susceptible of impressions, or, in other words, when irritability is at its highest. Whatever, therefore, interferes with the regularity of the nervous, or circulatory system, is likely to induce the disease. Sudden evacuations, or the suppression of those which are habitual, are equally liable to irritate the frame, and hence to bring on hysteria. The ordinary precursors of a paroxysm are lowness of spirits without any assignable cause, involuntary tears, palpitations,

flatulency, and sense of nausea ; but at times, it will come on without warning, and, in some individuals, the disease becomes, from frequency of recurrence, habitual.

Burton, in his "Anatomy of Melancholy," has drawn a most powerful picture of the hysteric patient. "They are apt," he writes, "to loathe, dislike, disdain, to be weary of every object. Every thing almost is tedious to them. They pine away, void of counsel, apt to weep, and tremble, timorous, fearful, sad, and out of all hopes of better fortunes. They take delight in doing nothing for the time, but love to be alone and solitary, though that does them more harm. And thus they are affected, so long as this vapour lasteth ; but by and by they are as pleasant, and merry, as ever they were in their lives ; they sing, discourse, and laugh, in any good company, upon all occasions."

Floyer has mentioned a case of hysterical asthma, which is detailed in answers given by the patient to queries put by him. He heads it, "Enquiries sent to an Ingenious Lady troubled with an Hysteric Asthma, and her Answers to them." She describes herself as having suffered from "fits of the mother" (hysteria) when about

15 years of age, and that in one of these fits tobacco having been blown on her face to recover her, she found her breath "become streight." The fits of the mother ceased after marriage, which occurred at the age of twenty-two; but the shortness of breath continued at intervals. In fact, the asthmatic fits were at times extremely violent; and usually unaccompanied by phlegm. None of the varieties of hysterical medicines, then in vogue, gave her relief: for, as she quaintly observes, "any thing of strong waters, or that is hot, or any stink, much offends me in my fits." The air of London and of Holland agreed best with her; and the only medicine, from which she seems to have derived benefit, was "Jesuits' Powder."

The transition from hysteria to asthma will be found well-exemplified in the following case, in which I have likewise explained my notions on the pathology of the disease. Their affinity, so far as the nervous system is concerned, is obvious; and many of the bodily conditions which excite the one, will superinduce the other. Irritation, whether of mind, or body, is a leading feature in each; and both are frequently sudden and unexpected in their access, and cessation.

Both, too, may equally exist as lesions of innervation, without any appreciable lesion of organization.

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CASE OF ASTHMA IN CONNECTION WITH HYSTERIA.

Miss Emily D., aged 25, had sustained, at the age of seventeen, a severe shock from witnessing an accident which befel a younger brother, who was run over by a carriage, in one of our crowded thoroughfares. Being no less delicate in person than sensitive in disposition, of retiring habits and a studious turn of mind, so dreadful a blow inflicted serious injury on her health. She was conveyed home in a state of insensibility ; and for several days was subject to repeated swoonings, and at times to occasional delirium. A few months after this, having, in the interim, suffered from palpitation of the heart, with intermittent pains in this region, hysteria began to manifest itself. It may not be indifferent to mention, that a young friend of hers, at that time a resident in the family, was subject to hysteric fits, and simulation therefore might, in some degree, have contributed to give rise to, or at least to develope the irritable temperament. The complaint gained

ground, and after a series of hysterical attacks, Miss D. was seized with aphonia, or loss of voice, and remained for several weeks unable to articulate louder than a whisper.

There was a singular coincidence observable in this patient, of most of the symptoms recognized at various times, and in various idiosyncrasies, as characteristic of the hysterical constitution. Singultus, or hiccough, to a distressing extent, and, on one occasion, continuing three days, with intermissions procured by brief intervals of sleep alone; borborygmi, or rumbling in the bowels, to such an extreme as to be heard at times (her friends assured me) in the room underneath her apartment, and accompanied with a splashing noise, as of water, which seemed to keep time with her respiration, ascending and descending in accordance with the inspiration and the expiration—these, and other symptoms of minor import, were all well-defined. After suffering for a considerable period, with various alternations, however, and having been under the care of several medical men, I was applied to, chiefly from an apprehension on the part of her friends that her chest was beginning to be the seat of disease. Exploration of this region soon satisfied me that there was no organic injury

of any moment. I detected slight dilatation of the right ventricle, and the respiratory murmur was somewhat puerile; which states might be ascribed in part to the direct action of the violent hysteric fits she had undergone, and in part, to sympathy with the condition of the region beneath the diaphragm. The state of the respiration indicated too that the lungs were, in some degree, emphysematous: a natural result of the constriction of the larynx attendant on hysteria, which would have a tendency to enlarge the volume of these organs. The nervous excitability of the parts above the diaphragm might have proceeded from irritation of the abdominal cavity, particularly of the intestinal canal; which, as I have observed when examining the bodies of individuals known to have laboured under hysteric complaints, was, I make no doubt, the seat of dilatations, as well as contractions. She was particularly subject to uneasiness, and pain, (along with erratic fulnesses in the abdomen) in the left hypochondrium, and especially just at the curve formed by the descending portion of the colon, where, from pathological experience, I am satisfied that dilatation existed. She had long constantly complained of local distress here, and was fully persuaded, in

her own mind, that some organic mischief was going on. This, indeed, appeared to have been the opinion of more than one of her medical advisers, since they had tried general bleeding, I was about to say *ad infinitum*, but certainly, by the patient's own account, fifteen times in the space of one year.

The above sensations, I should state, were extended, at times, from the left hypochondrium to the pectoral region of the same side ; manifesting themselves in sudden shoots, stitches, and catchings of the breath, so as to induce the suspicion of some pleuritic affection : but the impression on my own mind, as well from the careful examination I made of her chest, as from my experience in hysteric complaints, convinces me that she laboured at the most under pleurodynia. Bearing down pains in the vagina, possibly from distension of the sigmoid flexure, rectum, &c., together with great accumulation of urine in the bladder, at times requiring the assistance of the catheter, formed likewise some of the more prominent symptoms.. This last-named condition would continue for several days, so as to require the uniform use of the catheter; whilst occasionally, the secretory powers of the kidneys would seem to undergo cessation, no water

being deposited in the bladder for, at times, two days. On pressure, there was exquisite tenderness, chiefly over the lower part of the abdomen; and although this symptom only came on, to my knowledge, some time after I was first consulted; yet, my patient assured me, that it had been manifested at rather an early period of her complaint, and that it had induced, in the physicians then called in, the belief of some inflammatory action, for which they had counselled general, as well as local bleedings, in addition to those already alluded to.

The remedies prescribed by me proved serviceable, and her health seeming rapidly to amend, I discontinued my visits. About six months after this, I was hastily sent for. She had been seized with one of her former fits, and it was conjectured that she had sustained serious injury in falling—she had been found extended prostrate on the floor. When I saw her, she was lying apparently asleep, and both breathing and pulse were nearly natural. Having witnessed similar instances, and not being able to discover any signs of injury, I felt convinced that she was labouring under one of those singular fits, in



which the state of the hysteric patient may almost be likened to that presented in somnambulism. The application of sinapisms along the course of the spine, strong frictions over the abdomen, and injections of turpentine, assafoetida, and castor oil, &c., were resorted to with transient benefit. I then resolved to try what the reception of the nitrous oxide into her chest (a practice already mentioned) might effect, by means of its exhilarating properties. It so happened, however, that a gentleman, whom I was afterwards informed was considered by the family in the light of an accepted lover, came with her father into her apartment, and the sound of his voice (this is a circumstance of which I have known one other instance, and which men of enlarged professional experience will readily recognize) at once called her to consciousness.

For some period after this, she enjoyed a tolerable share of health, but undergoing some mental trouble, and having likewise caught cold from exposure to a shower of rain, she not only suffered from severe hoarseness, shortness of breath, and considerable laryngeal constriction, but from a sudden suppression of the catamenia,

which had before been too abundant. Her cough was of an unusually irritating nature, short, interrupted, and being a kind of bark, rather than cough. Her inspiration was sonorous and sibilant, and the sensation of uneasiness in the upper part of the larynx was so considerable, as to render me apprehensive that œdema of the glottis might ensue.

After recovering from this state under treatment, which it is unnecessary to detail, my patient began to be more and more affected with asthmatic breathing. She had before suffered, as it has been seen from dyspnœa; but this was now exacerbated so as to amount to asthma in its spasmodic form, accompanied with the distressing borborygmi previously noticed. I tried numerous remedies with unsatisfactory results; but on exhibiting sulphur, with dried soda, my patient experienced, ere long, a decided amelioration. Believing that her complaint might, in part, originate from the stomach and bowels, I employed the sulphur to accelerate the due peristaltic motion of the latter; and conjoined it with the soda, from the well-known power of alkalies in deadening the morbid sensibility of mucous surfaces.

The administration of this medicine was attended with happy effects; but I attribute the re-establishment of the patient, which ultimately took place, to the constant change of air and scene, which the circumstances of her family enabled her to enjoy, rather than to any remedial agents employed by me. To this happy result the conviction I succeeded in impressing on her mind, of the absence of organic disease, however distressing her symptoms might be, I have no doubt, highly contributed.

The above is one of the most decided cases of active neurosis I ever encountered; and the high exaltation of the functions of the visceral nerves was, at times, singularly marked. I have alluded to the suspicion, entertained by the earlier medical advisers of the young lady, of the existence of inflammatory action in the hypochondriac region; and would beg the attention of the young practitioner to the fact, that the supposition of great pain's indicating inflammation is a frequent source of error in practice. Antiphlogistic treatment is employed, and at first, I will allow, generally attended with benefit; but ultimately it aggravates every evil symptom.

Inflammation, it should be remembered, is not

necessarily denoted by extreme pain; and the history of the complaint will, in general, form a sure test by which to distinguish its presence, or the contrary. Should it appear that the attacks usually come on suddenly, and disappear in a similar manner, we may be certain of the non-existence of organic disease.

I must not omit to mention that I tried more than once the effects of moxas, applied to the sides of the neck, since the nerves of both animal and organic life are thus at once acted upon; and from the connection of the eighth pair particularly with the respiratory process, physical physiology warrants the supposition of the benefits likely to be derived from the trial. But although, in other instances, I have witnessed satisfactory results, in the present, I found the practice inefficient.





PLATE I.



T. Kelly del: et lith.

## EXPLANATION OF THE PLATES.

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### PLATE I.

FIG. 1.—Section of a small portion of the edge of the dried lung of an asthmatic individual, who lived many months after the operation of Paracentesis, which I had performed three times, on the left side of the chest. It was a case of hydrothorax, and the operations were ultimately followed by the removal of all symptoms of local, as well as general dropsy. The specimen was taken from the right lung.

*a* Serous surface.

*b* Slight dilatation of the air-cells.

*c* Internal appearance of interlobular emphysema.

*d* Membranous canal of a bronchial tube, slightly dilated in its ultimate branches.

*e* Pointing to vesicular irregularity.

*f* A large interlobular cavity. The line terminates at the point of ligature.



FIG. 2.—Deeper-seated section of an emphysematous lung. The person, from whom this specimen was taken, had been long subject to catarrhal asthma. He underwent Paracentesis Thoracis, at my wish, about eight years ago by Mr. Dermott, at the “Infirmity for Asthma, &c.,” which he had entered in a most distressing state with symptoms of general dropsy, and aqueous effusion in the left side of the chest. I recommended the operation in the view of affording him temporary relief: cure was out of the question. A quart of fluid was abstracted in one continuous stream; and, as the patient complained of fainting, the trochar was then withdrawn. I mention the particulars from the singular circumstance of the water, on its cooling, becoming a gelatinous mass: and I have since examined a body, at the request of Mr. Whitmore, surgeon, and found a similar mass, exceeding eight pounds in weight, occupying the left pleural sac.

The operation afforded the patient great relief for two days succeeding it; but unhappily extensive erysipelas took place, surrounding the punctured part, under which he finally succumbed.

*a* Serous investiture.

*b* Air cells in various states of dilatation, with the cellular partitions, separating the lobules, imperfectly discernible.

*c* Bronchial tube, irregularly dilated, and plugged with concrete phlegm.

*d* Air vesicles here, and especially underneath, much enlarged.

**FIG. 3.**—Taken from a female, known to have been forty years asthmatic.

*a* Pulmonary tissue, become condensed by lying to dry on a board.

*b* Outline of an enormous vesicle, exceeding an ordinary sized orange, originally circular at its base, and transparent. There were no fewer than three of these globular enlargements on one lobe.

*c* Points to one of several intermediate partitions, partly broken, and elongated, with complete obliteration of the air-cells.

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## PLATE II.

On making a section of the anterior of the summit, represented in the plate, there was found within it well-marked cicatrization,

x x 2

approaching at one extremity to the emphysematous vesicles therein displayed, of a cartilaginous texture, with bands of similar formation, but of irregular and lesser density, communicating with each other, and lying at various distances embedded in the substance of the lung. There were, likewise, several tubercles of a cheesy and cretaceous substance, and extensively surrounded by black pulmonary secretion.

The individual, (a female,) from whom this specimen was recently obtained, had been attacked, five years ago, by cancer of the womb, and the debility, induced by this disease, had brought on consumption. Fortunately for her she caught a cold which gave rise to bronchial affection, the asthmatic enlargement of the lungs consequent on which state effectually checked the progress of phthisis. The cancerous condition above-mentioned, increased in severity, and was attended by fetid discharges unusually profuse; and this circumstance, conjoined with domestic afflictions, operated sensibly on her general health. Her bronchial complaint finally assumed a pituitous character; and the secretion increased to such extent as, together with œdema of the lungs, to produce suffocation, terminating in death.



PLATE II.



*T. Kelly del et lithog*

The other lung was affected similarly to the one represented in the plate ; although in a lesser degree. From the general enlargement, which had taken place in both lungs, through the intervention of bronchial disease, there were no tubercles deposited in the lower lobes. The mode in which nature operates in this process, and its successful imitation by the agency of remedial art, is fully illustrated in my Treatise on Consumption.

*a* Transparent vesicles, of various sizes, containing air, and in clusters, but not pediculated.

*b* Air vesicles, slightly prominent, and thickly disseminated over the surface.

*c* Opening of the bronchus, the division of which is seen, and highly vascular.

*d* Opening of a pulmonary vein, within which its sub-division is perceivable.

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### PLATE III.

The lung, represented in this plate, was taken from an individual who had long suffered under bronchocele ; and the pressure on the trachea,

resulting from the great size of the tumour, had so much interfered with the ingress and egress of air, as to occasion disordered respiration. I must observe that the irregular shape of this summit, as well as those alterations from the usual outline that may be recognized in the other plates, are faithful copies of the appearances presented by the parts. The irregularity, and depression, in this instance, are a good deal owing to tubercles, and complete and solid cicatrices, left by previous consumption; which state had been arrested by the enlarged volume of the lungs produced by the encroachment on the trachea, and consequent asthmatic disorder above-mentioned.

*a* Chronic inflammation of the pleura, with jelly-like substance beneath it.

*b* Indolent tubercles, seen underneath the pleura, and mixed with cretaceous matter.

*c* Large vesicles formed by the rupture of several contiguous air-cells into one.

*d* Pulmonary tissue irregularly dilated.

*e* Partial extravasation of air on the surface of the lungs, underneath the pleura.

I have often detected this last-mentioned state in asthmatic cases; and in consumptive I have

PLATE III.



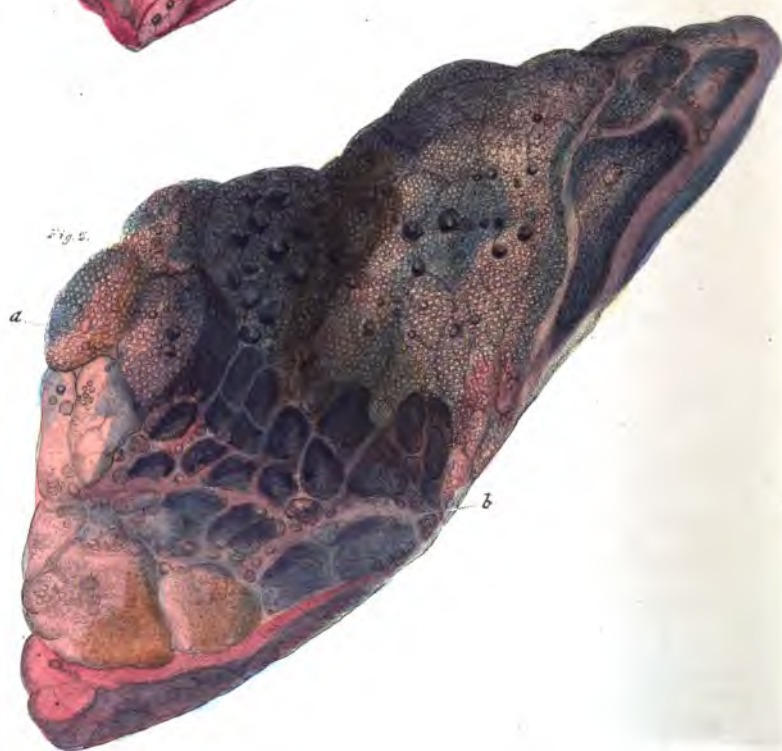
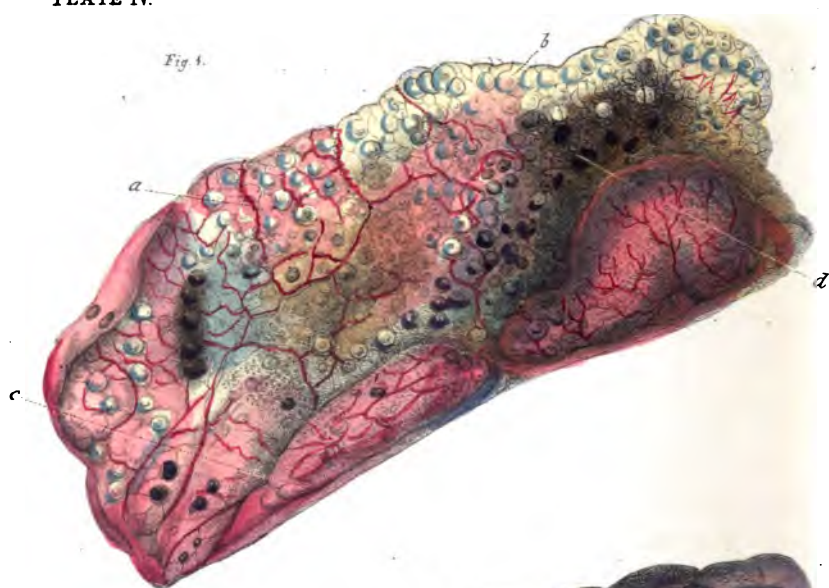
*T. Kelly del' et lithog.*







PLATE IV.



T. Kelly del<sup>t</sup> et lithog.

had reason to believe that it has co-operated in forwarding a cure. This species of lesion, (as seen in the plate,) is trifling, compared with the extent to which I have known it reach in other instances.

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#### PLATE IV.

FIG. 1.—A portion of the anterior edge of the lungs, in a state of vesicular emphysema.

*a* Vascular state of the intermediate cellular, as well as of the aerial partitions, with excessive, and permanent distension of the air-cells; these being beyond the size of millet-seeds.

*b* Single vesicles of unusual dimensions, eminent, globular, and apparently pediculated.

*c* Crosses over irregularly ovoid air-cells, and terminates in lobules much raised above the surface.

*d* Points to black pulmonary matter deposited in partitions, traversing irregularly the substance of the lungs. The line crosses over a multitude of small vesicles, of irregularly ovoid figure, the largest equal to the third or fourth part of a millet-seed, separated by white partitions, and resembling the aerated appearance of spittle.

**FIG. 2.**—The inferior surface of the lower lobe, taken from the left lung of an asthmatic individual.

*a* Points to a square partition, in which the pulmonary tissue is asthmatically dilated, as well as in a state of hypertrophy. Surrounding it are other lobules of all shapes and sizes, similarly affected.

*b* Section of the lung, and unusually dense and vascular cellular membrane traversing its parenchyma.

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## PLATE V.

Upper portion of a lung taken from an individual, who died of inflammation of the bowels. On referring to my case-book, I find that fourteen years before death he had been seized with asthmatic difficulty of breathing, which, from the history of the case given to me when consulted some time after the asthma had become habitual, I was persuaded must have supervened to, and arrested consumption. This diagnosis was verified, when on his demise I obtained permission to examine the body. The lung of which the plate represents a part, and, indeed, the other

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PLATE V.



*T. Kelly del. et lithog.*

lung likewise completely filled the cavity of the chest before removal.

*a* Summit of the lung, with a patch of fibro-cartilaginous membrane.

*b* Transparent air-vesicles of great size, and completely inflated.

*c* Innumerable tuberculous granulations, of the size of millet-seeds, dark coloured, and surrounded by black pulmonary secretion. The tubercles appeared never to have softened, and I make no doubt they were of many years' standing.

*d* Points to a blood-vessel.

*e* Air-cells enlarged over the whole of the surface of the lungs. In different parts near this, extravasations of air had taken place beneath the pleura.

*f* Points to another lobe of the lung.

The principles laid down in my work on Consumption are strikingly corroborated by the morbid appearances represented in the plate, in conjunction with the history of the case. So important is the knowledge of the fact to the asthmatic, no less than to the consumptive patient, that some of the forms of disordered respiration are the means by which nature frequently arrests the progress of phthisis—that I am induced to seize the present opportunity of still further



demonstrating this singular pathological phenomenon. So easy, indeed, is it of proof to the morbid anatomist, that although it seems surprising to me it should have escaped the activity of modern research, previously to my recognition of the fact; yet, when once pointed out, I cannot help thinking that to overlook it argues a blindness as complete as that of the Homeric Cyclops. I was about to say that this mental darkness was unaccountable; but to him, who has gained experience in humanity, professional humanity, it is no riddle.

Without enlarging on this, the painful side of human nature, it may yet be profitable to look at some of the inconsistencies into which this perversity of the mind, irrevocably leads those who deem equity towards another, detraction from themselves. For instance, I have made a discovery in the pathology of disease of the chest, which the greatest authority on such subjects, the lamented Laennec, expressly asserted would be made: and I find a lecturer at one of our public hospitals, who, in some lectures of his, takes this eminent writer as his "*decus et tutamen*," and almost (not to speak it irreverently) swears by him, stating to his auditory that the whole aim and end of that portion of the great work, on

which he models his own discourses, and to which he directs his auditory as to “perfection’s self,” is a chimera.

The object to which the immortal Laennec chiefly devoted his labours, in pursuit of which he sacrificed his life, to the demonstration of which he went on from discovery to discovery, and accumulated fact upon fact, and to establish which his whole system is built up—this, his follower and adulator, declares to be “a castle in the air.” Yet not wittingly be it observed. He knows not what he does. To use a homely simile, when a certain unclean animal takes to the water, the poor creature is not aware that every stroke made to save its life, is, in reality, cutting its own throat. The lecturer believed that in taking the work of Laennec for his text-book he could not go far wrong—but whilst threading through its details, and turning now to the right, and now to the left, as his sign-post indicated—he forgot that the perusal of such a writer requires something more than the mere spelling of his pages, and mistook the letter for the spirit. Thus he gives nosological definitions, draws distinctions, describes morbid appearances in the language of his master; but, school-boy like, dreams not that these are means to an end, and

are to lead to some grand result. He has evidently wished to effect an impossibility—that is, to reconcile truth to its contrary. Consumption, exclaims “Sir Oracle,” is not curable; which means, if it means any thing, that he himself has never cured it, which, for my own part, I firmly believe: if he had said that it was curable, he would still only have coincided with his authority, Laennec; but then the latter had merely stated the possibility, not the certainty of cure, I had proved it—“there was the rub.” The ingenuous orator would rather contravene the man from whom he had borrowed the whole scheme of his lectures, than admit that as a fact, which he could not disprove, but which would have owned the experience of his whole life to have been in vain.

A few quotations from Laennec’s work will suffice to convince, if not the lecturer, or those whose intellect is on a par with his, at least every unbiassed person, how signally he has jumped to a different conclusion from the author whom he holds up to admiration; and to whom, in reality, he is indebted for whatever is tolerable in his lectures.

In the second section of the general head—Phthisis Pulmonalis—Laennec expressly states,

when speaking of the curability of the disease, and the cases of cure adduced by him, "My experience leads me to esteem such cases very common: those above related occurred to me in the course of some months, and I have since met with others." Again, in summing up, he says, "To conclude, I think that the cure of consumption, where the lungs are not completely disorganized, ought not to be regarded as at all impossible, whether referring to the nature of the disease, or that of the organ affected." This is plain, and to the point. How were these, and other similar passages, overlooked by the lecturer?

I am aware that Laennec considered the cure of consumption in its early stage beyond the reach of art, but believed, to employ his own words, "the disease to be curable in the latter stages, that is, after the softening of the tubercles, and the formation of an ulcerous excavation." However, this establishes nothing against my argument. He still declares his belief in the curability of consumption, in its latter stages. I, for my own part, have proved the possibility of cure in both the early and latter stages—the latest are, of course, beyond man's power.

On a careful review of the cases of cure brought

forward by Laennec, in his second section, and a comparison of their details with the principles first developed by me in my Treatise on Consumption, it will be found that the appearances described by this eminent man are but so many proofs of the doctrines insisted upon by me. It is with no idle view of wishing to detract from him, that I affirm he saw no further than the morbid appearances, and did not understand the *modus operandi*, through which they originated. He had done enough for glory, and more for the advantage of his fellow-creatures, than two-thirds of the profession living or dead. Yet was he on the very verge of the discovery I have promulgated. Nay, I am almost convinced, from numerous passages in his work, that want of moral courage alone restrained him from anticipating me. For instance, he says, "In a lady, a former patient of M. Bayle's, fourteen years ago, and whose case was decidedly consumption, the sign of pectoriloquism is most distinct. This lady recovered beyond all expectation; she is now lusty, and slight cough is the only symptom she presents at all referrible to the lungs. I make no doubt that cartilaginous excavations exist in this person's lungs." Immediately after this he adds, "Indeed, I feel confident that when

the employment of the stethoscope becomes more general, it will be found that in those cases in which a well-marked phthisis, accompanied by pectoriloquism, is converted into a chronic catarrh, the pectoriloquism will frequently continue through life, and anfractuous cavities, lined by a semi-cartilaginous membrane, will often be met with in the lungs after death."

In justice to myself, I may perhaps be allowed to cite the following passage from the work of mine above alluded to. "It is, indeed, strange that medical men have not noticed the non-liability of the asthmatic individual to pulmonary consumption; and that various species of catarrh are the instruments by which nature chiefly arrests that disease." Let this be compared with the words of Laennec, (I still quote from the same second section,) "Occasionally, while examining the lungs of subjects that had suffered from chronic catarrh, we find irregular cavities lined by a semi-cartilaginous membrane, and these cavities agree perfectly with the tuberculous ulcerations, except that they are empty. In carefully examining the history of such subjects, we find that they all refer the origin of the catarrh to a violent anterior disease which bore the character of consump-

tion so strongly, as to cause their case, at the time, to be considered desperate."

Now, what can be inferred from the above but that Laennec had noticed the fact of catarrh's supervening to consumption, and the cessation of the latter disease on this supervention, but had never been induced to investigate the cause of this singular fact?

The subject is of such paramount importance, from the ravages annually committed by this disease, that I shall not think it time lost if by pursuing these quotations from Laennec a little further, and thus shewing that his opinions are substantially the same as my own, I shall induce but one medical man to believe there is no ill so great but what Heaven hath provided the means of cure. In Laennec's remarks on his twenty-third case, he observes, "that tubercles in the lungs are not, in every case, a necessary and inevitable cause of death:" again, still reviewing the same case, he says, "were it in our power to ascertain the previous history of such cases as exhibit these cartilaginous excavations, and cicatrizations, after death, we should, in all probability, find that the patients had been subject to a long continued cough, and severe catarrh; or

even to a disease considered at the time as true consumption, and which had been very unexpectedly cured."

In case twenty-four, after admitting that no more than temporary cure can be hoped for "in those extreme cases of tubercular diathesis, which, after all, are rare, when compared with the vast number of consumptions;" he thus continues, "we are still entitled to hope for the cure of many cases of phthisis, or, at least, for such a suspension of their symptoms as may be deemed almost equal to a cure, since the individuals may enjoy such a state of health as may enable them to fulfil all the duties of civil life," &c.

Let the following passages from my work on Consumption be compared with the above quotations; and it will be perceived that they coincide as to the facts, the only difference being that I have reasoned from the facts to their cause. "Neither perfect recovery, nor indeed exemption, from the danger of relapse into a consumptive state, is found to occur, except in very rare instances, unless the pulmonary organs become naturally, or artificially voluminous; which not-unfrequently happens by the supervention of some catarrhal state of the larynx, trachea, or bronchial tubes. It is a most fortunate circumstance for some



affection of this kind to occur early, as it never fails permanently to arrest this most fatal disorder. When the lower lobes of the lungs are entirely free from tuberculous matter (which is often indisputably the case for a considerable period, unless there be strong hereditary predisposition); and though there exist, at the same time, cavities in the superior part of one, or both lungs, clearly indicated by perfect pectoriloquism, there is almost a never-failing hope of recovery to be entertained, provided an emphysematous sound can be heard. In fact, I never knew a consumptive person who did not lose all his formidable symptoms, and regain health, when an emphysematous, or a semi-asthmatic, change had early taken place: and, likewise, I never knew an individual to become consumptive who was a subject of chronic catarrh, or any species of asthma." Again, "Half of those, which are commonly regarded as cases of catarrhal asthma, originate in consumptive disease, whose progress has been arrested by the supervention of that affection; but in which neither fresh crops of tubercles, nor hectic fever, need be apprehended."

The mode in which inhalation operates, by its imitation of the catarrhal intervention of nature

is thus briefly explained in the same work. "There are few early cases of consumption but what will be rapidly improved by this treatment (inhalation) steadily pursued. The disease being thus checked, the same changes will follow which are attendant on catarrh. The nodules of unripe tubercles will become innoxious in consequence of being surrounded by black secretion, or what has been called black pulmonary matter; and small cavities, already formed, will have their surfaces soon brought in contact, so as to heal by what surgeons term the first intention. It is, we must own, preferable to effect pulmonary expansion by sure artificial means, rather than to depend upon the uncertain production of catarrh. And there is another point gained, inasmuch as recovery takes place unaccompanied by the cough, or difficulty of breathing, generally attendant on those cures, which Nature herself now and then accomplishes, by introducing this less fatal, yet distressing complaint."

To return, after this digression, to the lecturer, most learned by courtesy, I beg to recall a circumstance to his attention, which may serve to show how dangerous it is to pronounce any thing impossible. About three years ago I attended a young lady of the name of Smith for consumption. During

the course of my attendance she was seized with an hysterical fit, not long after which emphysema began to manifest itself. The crackling sound emitted from the summit of the left lung made me sanguine as to the result; as I knew, by experience, that a check would be thereby given to the progress of the consumptive disease. However, it so chanced, that the aforesaid learned lecturer was likewise called in. His advice was taken preferably to mine; he at length had the patient completely to himself, and had this in his favour, that she had been removed to the better air of one of the suburbs. Yet did he so manage matters, in order to verify, I presume, his favorite axiom of consumption's not being curable, that in process of time I received a summons from the nearest relative of the young lady, stating that Dr. ——— had given her daughter up, having declared death inevitable, and begging me to come, since their only hope now lay in me. The result is, that the lady, whose cure was impossible, is now alive, and one of the healthiest of the family.

So ultra-sanguine, indeed, was he of the accuracy of his prognosis, that when we compared notes on the case, he declared, before the relatives of the young lady, and myself, she could

not live. Nay, he *repeated again* his assertion—he will understand me—and slighted my favorable predictions.

This is the only case of mine in which we have ever met in consultation; and since the patient who, according to him, was to die, lives,—I presume, he must own that no event could more thoroughly “disable his judgment.”

But the above is not a solitary instance of error. I am aware of several others of a similar nature—or else his quondam patients much belie him.

I conclude by preferring a question, to which an answer *may* be easily given. What would the lecturer, who so pointedly denies the curability of a disease, think of the competency of a physician, and lecturer also, who should examine a body, and authoritatively pronounce that the individual had not died of poison, without discovering that the stomach had been taken out previously to his examination?

I can tell him of such a person; but, be it understood, I say not with Horace “*De te fabula narratur.*”

A case is recorded by M. Cruveilhier, in the 5th Livraison of his “*Anatomie Pathologique,*” which bears such strong evidence of the correctness of my views, that I am tempted to notice it.

The professor states that a labourer, aged forty, entered the "Maison Royale de Santé" with all the symptoms of laryngeal phthisis. He had been seized with hoarseness about ten months previously to his entering. On examination, his lungs appeared healthy, with the exception of a dry, and sonorous cavity in the summit of the right lung.

The patient died suffocated by the laryngeal affection. On opening the body, "the vast cavity in the summit of the right lung was perfectly cicatrized."

Here is the healing up of a cavity performed by nature. The affection of the throat impeded the expiration; the lungs were excited to full play, in order to overcome the impediment; and the activity thus forced upon them developed their volume, and by the development the surfaces of the cavity were brought into apposition, and a cure effected.

It is this process of nature, which I imitate by mechanical means; avoiding the danger of any other complaint, as in the above case, being engrafted upon the primary one. For that the cavity was antecedent to the laryngeal affection admits of no dispute. I propose by anticipating, yet imitating nature, to effect the good she first

taught, and avoid the irregularities into which her unassisted efforts are often betrayed. What I propose, indeed, I have accomplished. Inhalation, on the principles first explained by me, and modified in accordance with those principles, is simply operating without—what nature too often performs with—danger. The principle is simple, for nature is ever so; but it is powerful. It effects what our great master, in pulmonary disease, has left us his testimony would take place. Consumption may be cured, says Laennec; it can be cured, exclaims Nature. Morbid anatomy, as we have seen, attests the fact, and still better, I have introduced the lecturer who pronounces No, to his patient, who should have died, but who lives to affirm—Yes.

## PLATE VI.

Back of a bust moulded from the chest of an individual, who had suffered contraction of one side of the chest, in consequence of pleurisy. The other side had subsequently become emphysematous, or asthmatic. It will be seen how considerably the chest is enlarged by the in-

creased volume of the lungs, resulting from emphysema ; and experience has proved to me, that enlargement of even a portion of the lungs on one side only will prolong life, although the other side should be at the same time the seat of tubercles. The plate shows the rounded figure imparted to the right side of the chest by chronic asthma ; and when the entire lungs are asthmatic, the whole of the thorax, of course, becomes proportionally prominent, and rounded.

*a* Depression of the shoulder, underneath which are seen the diminution of the muscles, and the drawing together of the ribs usually consequent to certain pleurisies. I would here beg attention to an error into which Laennec seems to have fallen, when he considers contraction of the affected side, the invariable result of such cases. When the affection has occurred at an early period of life, I have known instances in which the patient has become what is termed pigeon-breasted, without any difference of size being observable between the two sides. To return to the plate, it will be perceived that the length of the chest is much diminished on this the diseased side, and the spine leans in towards it.

*b* Effects of the emphysematous enlargement previously noticed, with expansion of the intercostal spaces.

FINIS.

PLATE VI.

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b

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